Contents

Section 7 Industrial and Related Facilities (IF) Program

Section 8 Weather Monitoring Program

Appendices

Figures

Tables

Exhibits

Section 1
Introduction

1.1 Purpose

The purpose of the City of Columbus (City) Stormwater Management Plan (SWMP) is to communicate to City staff, Ohio EPA, and the public how the City intends to meet its stormwater National Pollutant Discharge Elimination System (NPDES) permit requirements. The SWMP documents the written procedures, measurable goals and evaluation methods that will be used for each program element referenced in the City's stormwater NPDES permit.

The SWMP also provides written documentation of the City's Municipal Separate Storm Sewer System (MS4) program, including procedures to be followed by City staff for performance and annual reporting of the selected best management practices (BMPs).

This SWMP is intended to be updated as necessary to reflect accepted standard practice in stormwater management and changes in the City's stormwater NPDES permit requirements. The City may also modify the SWMP during the life of the permit in accordance with permit procedures.

1.2 Regulatory Requirements

The City of Columbus owns and operates the MS4, defined as the conveyance or system of conveyances (including catch basins, curbs, gutters, ditches, manmade channels, and storm drains) designed or used for collecting or conveying stormwater. The MS4 has been constructed since the founding of the City with the primary purpose of conveying drainage from developed areas such that standing water or flooding does not result from frequent storm events. As the City has developed, the MS4 has grown to consist of drainage related appurtenances including storm sewers, catch basins, curb inlets, junction chambers, manholes, culverts, headwalls and endwalls, stormwater pump stations, stormwater control facilities, ditches and manmade channels. The MS4 discharges to Big Walnut Creek, Alum Creek, Olentangy River, Scioto River, Hellbranch Run, Rocky Fork Creek, lesser named creeks, and unnamed tributaries to each.

Operators of regulated MS4s are required to obtain NPDES permit coverage because the stormwater discharges are considered "point sources" of pollution. In compliance with the provisions of the Federal Water Pollution Control Act, as amended (33 U.S.C. 1251 et. seq.) and the Ohio Water Pollution Control Act (Ohio Revised Code Section 6111), the City of Columbus is authorized by the Ohio Environmental Protection Agency to discharge from all portions of the City's MS4 to waters of the State, in accordance with its stormwater management program and conditions specified in the City's stormwater NPDES permit.

Under the permit, the City is required to continue implementation of its stormwater management program. The stormwater management program will be considered as an ongoing effort to reduce pollutant discharges from the MS4 to the maximum extent practicable (MEP) and to reduce the impacts on the receiving water quality from MS4 discharges. MEP is a standard that establishes

the level of pollutant reductions assumed to be achieved through implementation of a comprehensive stormwater management program.

As required by the City's stormwater NPDES permit, this SWMP documents the City's stormwater management program, including the BMPs that are already or will be implemented to satisfy each of the program elements in the permit. BMPs are generally described as activities, prohibitions of practices, maintenance, structural controls, and management practices and procedures used to prevent or reduce the release of pollutants or otherwise prevent adverse impacts to surface waters.

For each BMP the SWMP also documents measurable goals and the time in which the City will undertake the required actions. The measurable goals are the means by which the City will evaluate the stormwater management program effectiveness. Because it is difficult to obtain statistically significant comparisons of watershed-wide management program performance with direct water quality monitoring, BMP effectiveness will be assessed primarily through indirect monitoring methods (e.g., verification or tracking of BMP implementation). Evaluation of the indirect monitoring will consist of an annual summary of the program data and evaluation of trends as appropriate.

1.3 Reporting Procedures

As required under the Permit, the City must annually evaluate and present its review of the stormwater management program in conjunction with preparation of the Annual Report. The annual review includes the following:

- A review of the status of program implementation and compliance or noncompliance with requirements in the permit,
- An assessment of the effectiveness of the SWMP,
- A review of monitoring data to evaluate the effectiveness of BMPs, and
- A review of monitoring data to characterize the pollutants in stormwater runoff.

Each Annual Report during the five-year permit term will be submitted to the Ohio EPA Division of Surface Water (with a copy to the Ohio EPA Central District Office) on or before March 31st and will provide a description of SWMP activities that the City has implemented and the improvements that have resulted through May 31st of the prior year.

Although data tracking will be continuous throughout the year, the Stormwater and Regulatory Management Section (SRMS) will contact departments responsible for providing monitoring and tracking data for measurable goals to include in the annual report. The table of organization in **Appendix A** identifies the responsible departments for each minimum control measure of the City's NPDES Stormwater Program. The contacted departments will be responsible for providing monitoring and tracking data to SRMS so that SRMS may evaluate the information and prepare the Annual Report by the March 31st deadline.

1.4 SWMP Organization

Sections 2 through 8 of this SWMP describe the eight major elements of the City's MS4 program, as follows:

- Section 2 - Public Education and Outreach on Stormwater Impacts and Public Involvement/ Participation (combines two of the eight major elements)
- Section 3 - Illicit Discharge Program
- Section 4 - Construction Program
- Section 5 - Post Construction/Redevelopment Program
- Section 6 - Pollution Prevention/Good Housekeeping Program
- Section 7 - Industrial and Related Facilities Program
- Section 8 - Wet Weather Monitoring

These eight program elements are divided into a number of sub-elements, each corresponding to a specific permit requirement. For each sub-element, the SWMP consists of a brief description of the permit requirements and the BMPs that the City will employ to fulfill these requirements. For each BMP, the following information is provided:

- A rationale statement describing why the BMP was selected and how it will meet permit requirements,
- A description of the BMP and how it will be implemented,
- One or more measurable goals for the BMP,
- The evaluation processes that will be employed to determine if the BMP is effective and progressing toward meeting the measurable goals, and
- The department responsible for implementing the BMP.

Section 2
Public Education (PE) and Outreach on Stormwater Impacts and Public Involvement (PI)/Participation

The City of Columbus recognizes that providing stormwater educational materials to the public and extending opportunities for public participation in the stormwater program can result in improved water quality. To achieve this, the City's Public Education and Outreach on Stormwater Impacts and Public Involvement/Participation programs address specific activities and pollutants identified by the City and the Permit, and that directly relate to pollutants commonly detected in stormwater runoff affecting receiving waters in the City. Because both programs often involve the same themes, audience, and activities, this section combines the best management practices (BMPs) selected to address both minimum control measures.

2.1 Develop and Publicize Education Materials and Involvement Opportunities

Required SWMP Components

- Identify the target themes and audiences that the City's public education program is designed to address and create appropriate message(s) based on at least three targeted residential issues and three targeted industrial/commercial issues or three issues deemed more appropriate for the municipal separate storm sewer system (MS4).

- Publicize information on the causes and prevention of stormwater pollution. The program will inform individuals and households on how to become involved in the stormwater program, steps they can take to reduce stormwater pollution, and proper use and disposal of household hazardous and toxic materials.

- Develop and implement a public education program relating the proper management and disposal of used oil and toxic materials as it relates to minimizing their impacts into the City's MS4. The program must publicize a list of the recyclers of household hazardous wastes, used motor oils and tire disposal facilities.

- Annually (seasonally) publicize information targeted to City residents relating the proper use of lawn chemicals, including pesticides and herbicides, to minimize pollutant discharge to storm sewers and streams.

- Identify the City's target audiences, offer opportunity to the target audiences for public involvement, and develop appropriate methods to reach these audiences. The City must provide an opportunity to involve all potentially affected stakeholder groups, including commercial and industrial businesses, trade associations, environmental groups, homeowner's associations, and educational organizations, among others.

- Continue to create opportunities for citizens to participate in the implementation of stormwater activities and provide a minimum of five public involvement opportunities by the end of the permit term.

- Publicize a hotline or have a mechanism in place to be used for reporting illicit connections, improper disposal of waste and water quality impacts due to MS4 discharges.

Rationale Statement

To develop the public education and public involvement programs, the City must first identify its targeted themes and audiences. The Department of Public Utilities has developed the list of targeted themes and audiences based on the most common local contributions to non-point source pollution discovered by City staff during prior permit periods. The selected themes and activities exceed the minimum three residential themes, three commercial/industrial themes, and five involvement opportunities required by the Permit. The programs target primarily adults within the general public, who are most likely to use lawn chemicals and generate household hazardous waste, and a secondary target audience of children, who will be our next generation of environmental stewards. The measurable goals were selected to track annual review and implementation of these BMPs over time.

Description and Implementation Approach

Table 2-1 lists the 2015 targeted themes, respective audiences, and activities for both the Public Education (PE) and Outreach on Stormwater Impacts and Public Involvement (PI)/Participation minimum control measures. As shown in the first column, each theme corresponds to one or more BMPs, some providing both educational and involvement opportunities (PE and PI). The last column distinguishes those themes and BMPs specifically required by the Permit. Most of the BMPs include only one targeted theme; however, BMP PE1 groups the City's selected public education themes that are not specifically required by the Permit for easier identification and modification, if needed. Table 2-1 and the selected BMPs will be reviewed annually against findings of other SWMP program elements and those BMPs that are not specifically required by the Permit may be modified or amended if pollutants are being effectively controlled and/or additional significant pollutant sources are discovered.

The remainder of Section 2.1 presents more detailed information on the rationale, implementation, and measurable goals for each BMP.

Table 2-1. 2015 Public Education and Involvement Programs

BMP	Target Theme	Community	Target Audience	Partner	Lead	Activity	Required by Permit
PE1/ PI4	Pet Waste	Residential	Dog owners	Division of Water, Watershed Management Section; Recreation and Parks; Consultant	DPU Director's Office	• Signage • Kiosks • PUP Program	No
PE1/ PI3	Onsite Stormwater Retention	Residential*	Homeowners, landscapers, garden centers	Franklin Soil and Water Conservation District	DPU Director's Office	• GreenSpot Backyard Conservation program • FSWCD's Gardening for Clean Water program	No
PE1	Onsite Stormwater Retention & Water Quality Impacts Associated with Land Development	Industrial/ Commercial	Business owners, big box stores, developers, landscapers	Local watershed groups, Franklin Soil and Water Conservation District	DPU Director's Office	• Grant program • GreenSpot application • Outreach • FSWCD's Gardening for Clean Water program	No
PE1	Good Housekeeping	Industrial/ Commercial**	Those who power wash, sweep surfaces and perform other outdoor cleanup activities		SRMS, DPU Director's Office	• GreenSpot application • Outreach	No
PE1	Fats Oils and Grease	Industrial/ Commercial	Restaurants, businesses & manufacturers whose byproduct or waste includes fats, oil or grease	Columbus Public Health	SRMS	• Outreach • Columbus Public Health's Food Protection Program inspections	No
PE2	Vehicle Fluids and Tire Recyclers	Residential/ Commercial	Auto repair businesses and general public	SWACO	Division of Refuse, DPU Director's Office	• Websites and educational materials	Yes
PE3/ PI5	Household Hazardous Wastes	Residential, Industrial/ Commercial	General public and businesses	SWACO	Division of Refuse, DPU Director's Office	• Websites and educational materials	Yes

BMP	Target Theme	Community	Target Audience	Partner	Lead	Activity	Required by Permit
PE4	Yard Maintenance	Residential/ Commercial	Homeowners, lawn care businesses, garden centers	Franklin Soil and Water Conservation District, Consultant	DPU Director's Office	• Outreach • FSWCD nutrient management outreach program	Yes
PI1	Storm Drain Marker Program	Residential, Industrial/ Commercial	General public; children, schools, and other youth groups; businesses; environmental groups	Franklin Soil and Water Conservation District	DPU Director's Office	• Volunteer opportunity	No
PI2	Central Ohio River Pride Clean-up	Residential, Industrial/ Commercial	General public; children, schools, and other youth groups; businesses; environmental groups	Division of Water, Watershed Management, Watershed groups	DPU Director's Office	• Volunteer opportunity	No
PI6	Watershed and Land Stewardship Programs	Residential	General public, homeowners, riparian landowners, environmental groups	Watershed Management	Watershed Management	• Reservoir Reflections newsletter • Meetings with reservoir residents	No
PI7	Public Hearings and Presentations	Residential, Industrial/ Commercial	General public, businesses, homeowners, environmental groups		DPU Director's Office	• Advertised meetings & public comment opportunities	Yes
PE1/ PI8	GreenSpot	Residential, Industrial/ Commercial	General public, businesses, homeowners, children, schools	Mayor's Office, Green Team, Columbus Public Health, Recreation and Parks, Columbus City Schools	DPU Director's Office	• Corporate sustainability initiatives • Green Walks map • GreenSpot Kids outreach	No
PI9	Central Ohio Children's Water Festival and Other School Programs	Residential	Children, schools	Division of Water, local agencies, consulting firms, Columbus City Schools, Franklin Soil and Water Conservation District	Watershed Management, DPU Director's Office	• Annual festival • Direct outreach • Classroom activities	No

BMP	Target Theme	Community	Target Audience	Partner	Lead	Activity	Required by Permit
PI10	645-STREAM Hotline	Residential, Industrial/ Commercial	General public		DPU Director's Office and the Sewer Maintenance Operations Center	• Hotline	Yes

*may overlap into industrial community
**may overlap into residential community

2.1.1 BMP PE1 – Targeted Public Education Themes

Rationale Statement

The Department of Public Utilities has developed these targeted themes and audiences based on the most common local contributions to non-point source pollution discovered by City staff during prior permit periods. The measurable goals were selected to track annual review and implementation of these BMPs over time.

Description and Implementation Approach

BMP PE1 groups the City's selected public education themes that are not specifically required by the Permit for easier identification and modification, if needed. To publicize information on these themes, the City uses a number of different media and educational materials: the Department of Public Utilities (DPU) and Public Service websites, social media, storm drain markers, brochures, bill inserts, door hangers, news releases, community events, and the partner websites. The DPU website also presents general information on the causes and prevention of stormwater pollution.

The following briefly describes each of the PE1 themes listed in Table 2-1:

- **Pet Waste** – To promote proper pet waste disposal, the City created new signage for the pet waste/trash bag kiosks within Hoover and O'Shaughnessy reservoir and other City parks kiosks, tying the signage to its Pick Up Poop (PUP) campaign, also publicized on City websites. The signs communicate why PUPing is critical: "It's the Law and Keeps Our Water Clean." Section 2.1.8 provides more information on Pet Waste as a public involvement opportunity.

- **Onsite Stormwater Retention** – For the GreenSpot Backyards Program, the City has a working agreement with Franklin Soil and Water Conservation District to engage Columbus residents in implementing backyard conservation practices; incentivize implementation of conservation practices and GreenSpot membership by offering technical assistance with rain garden installation and rebates on the purchase of select rain barrels, compost containers, and native vegetation; and to coordinate with related programs and community outreach through watershed groups. Section 2.1.7 provides more information about onsite stormwater retention public involvement opportunities.

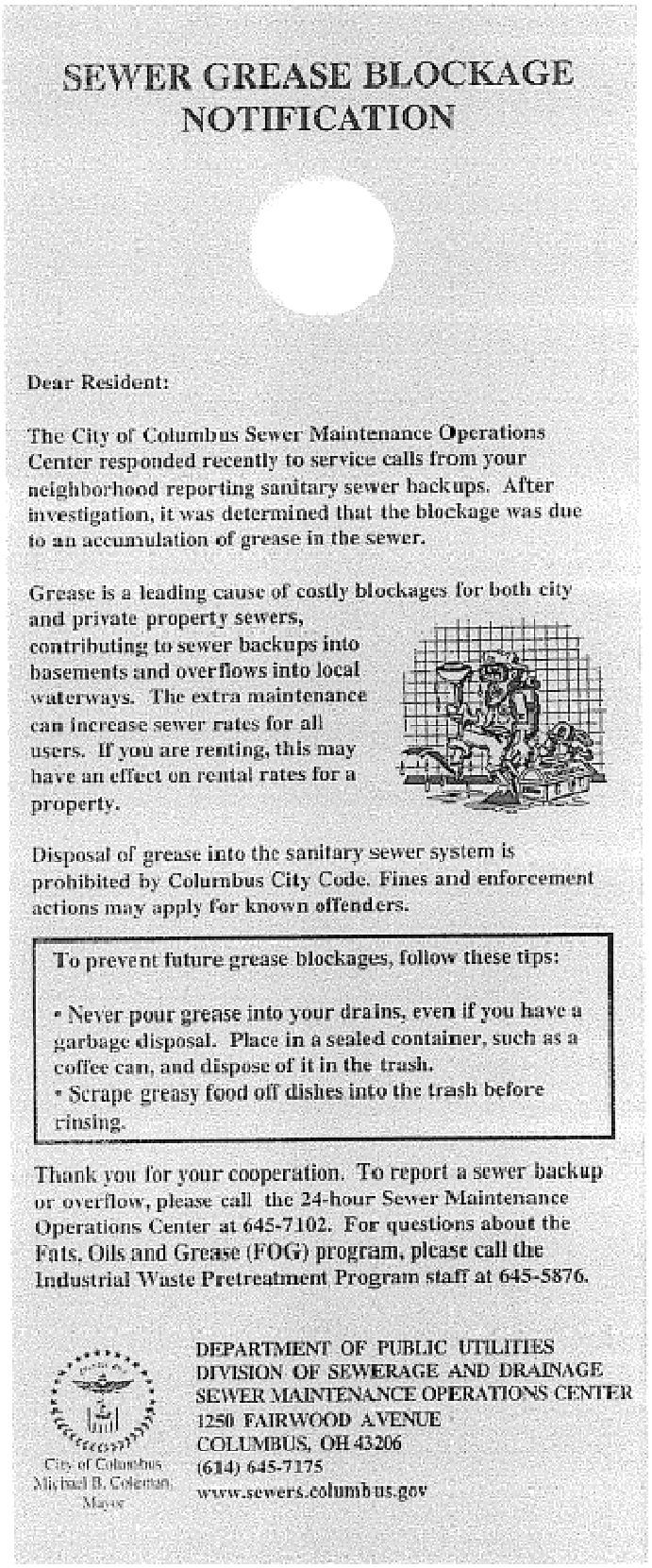
- **Onsite Stormwater Retention & Water Quality Impacts Associated with Land Development** – The City is establishing a grant program for local watershed organizations to promote green infrastructure credits and is developing a mandatory training course as part of the grant eligibility. In addition, the City's GreenSpot application, outreach activities, webinars, social media, and Utility Update publicize information on this theme. Through a partnership with FSWCD, FSWCD's Gardening for Clean Water program provides education and technical training for landscapers.

- **Good Housekeeping** – To educate those who power wash, sweep surfaces and perform other outdoor cleanup activities about the prevention of pollution from these activities, the City is currently identifying power washer companies and will create and distribute educational

information. The City currently provides information through the GreenSpot application, outreach activities, webinars, social media, and Utility Update.

- **Fats Oils and Grease (FOG)** - The City's Industrial Waste Pretreatment Group (IWPG) continues to administer the FOG program enacted in 2005, including outreach and education initiatives directed toward food service establishments, single family and multi-family residences. In instances in which the origin of a FOG-related sanitary sewer blockage is attributed to food service establishments, an IWPG representative meets with the establishment's management to discuss and explain requirements of the City's FOG BMP rule. In instances in which the FOG is confined to single or multi-family neighborhoods, members of the IWPG canvas the area and distribute educational door hangers (Exhibit 2-1). Through a Memorandum of Understanding (MOU) between the Division of Sewerage and Drainage (DOSD) and the Columbus Health Department (CHD), CHD sanitarians inspect FOG BMP documents at all food service establishments during their annual food license inspection and refer facilities found to have deficient FOG BMP documentation to the IWPG for follow-up.

- **GreenSpot** – The City developed its web-based GreenSpot program to inspire, educate and recognize residents, businesses and community groups who make the commitment to live more sustainably. Commitments include water quality protection and the City has presented workshops and webinars to businesses on stormwater



SEWER GREASE BLOCKAGE NOTIFICATION

Dear Resident:

The City of Columbus Sewer Maintenance Operations Center responded recently to service calls from your neighborhood reporting sanitary sewer backups. After investigation, it was determined that the blockage was due to an accumulation of grease in the sewer.

Grease is a leading cause of costly blockages for both city and private property sewers, contributing to sewer backups into basements and overflows into local waterways. The extra maintenance can increase sewer rates for all users. If you are renting, this may have an effect on rental rates for a property.

Disposal of grease into the sanitary sewer system is prohibited by Columbus City Code. Fines and enforcement actions may apply for known offenders.

To prevent future grease blockages, follow these tips:

- Never pour grease into your drains, even if you have a garbage disposal. Place in a sealed container, such as a coffee can, and dispose of it in the trash.
- Scrape greasy food off dishes into the trash before rinsing.

Thank you for your cooperation. To report a sewer backup or overflow, please call the 24-hour Sewer Maintenance Operations Center at 645-7102. For questions about the Fats, Oils and Grease (FOG) program, please call the Industrial Waste Pretreatment Program staff at 645-5876.

City of Columbus
Michael B. Coleman
Mayor

DEPARTMENT OF PUBLIC UTILITIES
DIVISION OF SEWERAGE AND DRAINAGE
SEWER MAINTENANCE OPERATIONS CENTER
1250 FAIRWOOD AVENUE
COLUMBUS, OH 43206
(614) 645-7175
www.sewers.columbus.gov

Exhibit 2-1. Sample Door Hanger for FOG Program

pollution prevention; fats, oils, and grease; and Spill Prevention, Control and Countermeasure requirements. GreenSpot also includes the Green Walks and GreenSpot Kids programs. Section 2.1.12 provides more information on GreenSpot public involvement opportunities.

Measurable Goals
The following measurable goals have been established for this program:

- Distribute educational materials to reach at least 20% of city residents each year.
- Publicize at least 20 stormwater education messages annually using social media.
- Review the list of targeted themes and audiences in Table 2-1 during preparation of the City's annual compliance report to Ohio EPA.
- Continue pet waste campaign. Install and maintain signage and kiosks in parks.
- Develop yard maintenance program in 2015 and begin implementation in 2016.
- Continue GreenSpot Backyard Conservation and rain barrel cost share program.
- Establish grant program for watershed organizations to promote green infrastructure (G/I) credit and develop a mandatory training course as part of grant eligibility.
- Continue public education through the Utility Update and GreenSpot application, outreach activities, webinars and social media.
- Identify power washer companies and create/distribute educational information starting in 2015.
- Continue working with Columbus Public Health's Food Protection Program to distribute FOG educational information.

Evaluation Methods
In conjunction with the Annual Report, the City will compile quantitative tracking data for the measurable goals. Meeting or exceeding the goals for implementation of this BMP will be considered achievement of the measurable goals. In conjunction with the Annual Report, the City will review the list of targeted themes and audiences against findings of other SWMP program elements and may recommend the list be amended if pollutants are being effectively controlled and/or if additional significant pollutant sources have been discovered. Discussion of this review in the Annual Report will be considered achievement of the measurable goal.

Responsible Departments: Department of Public Utilities Director's Office, Stormwater and Regulatory Management Section, Columbus Health Department.

2.1.2 BMP PE2 – Educate Auto Repair Businesses and General Public About Vehicle Fluids and Tire Recyclers

Rationale Statement

The City implements this targeted theme to help make auto repair businesses and the general public aware of proper disposal of vehicle fluids and tires. The target audience for this BMP includes auto repair businesses and the general public because changing the behavior of these groups has the most potential to reduce stormwater impacts from these pollutants. The measurable goal was selected to track implementation of this BMP.

Description and Implementation Approach

The City uses a variety of media to inform auto repair businesses and the general public about the hazards improperly disposed vehicle fluids and tires pose to water quality. These media include the DPU and Public Service Department websites, the Keep Columbus Beautiful website, the Solid Waste Authority of Central Ohio (SWACO) website, fliers and face-to-face interaction. SWACO informs auto repair businesses and the general public of locations of recyclers of used oil and tires through the agency's website. The City's website provides a link to SWACO's information. The City provides funding to SWACO through generation fees the City pays for refuse disposal at SWACO's landfill and tipping stations.

Measurable Goal

The following measurable goals have been established for this program:

- Publicize locations of recyclers of used oil and tires through SWACO.

Evaluation Methods

In conjunction with the Annual Report, the City will compile tracking data for the measurable goals. Meeting or exceeding the goal for maintaining links to SWACO's website through City website(s) will be considered achievement of the measurable goals.

Responsible Department: Department of Public Utilities Director's Office and Division of Refuse (for publicizing proper disposal of used oil and tires).

2.1.3 BMP PE3/PI5 – Educate General Public About Household Hazardous Wastes & Household Hazardous Waste Drop Off/Collection

Rationale Statement

The City implements this educational campaign and public involvement activity to help make the general public and business owners aware of the dangers household hazardous wastes pose to water quality, compliment the public involvement activities of SWACO, and actively involve affected stakeholder groups, including the general public and businesses, among others. The target audience for this BMP includes homeowners and business owners because household hazardous wastes are not limited to a particular audience and changing the behavior of these groups has the most potential to reduce stormwater impacts from household hazardous wastes. The measurable goals were selected to track implementation of this BMP through program

publicity and to reflect the effectiveness of this BMP through quantitative measurements of waste collected.

Description and Implementation Approach
The City uses a variety of media to inform the general public and businesses about proper disposal of household hazardous wastes. These media include the City's DPU and Public Service Department websites, 645-STREAM, bill inserts, the Keep Columbus Beautiful website, the SWACO website, and fliers. The Columbus Public Service Department and SWACO inform the general public of locations of recyclers of household waste through their respective websites; the DPU website provides links to the SWACO website specifically for information on disposal of hazardous household wastes. The City also informs the general public of Household Hazardous Waste collection events through the Public Service Department website. Households and businesses are contacted through mass media and water/sewer billing inserts. The City has also developed a fact sheet for businesses that may be distributed by City field personnel.

The City participates in, and partially funds, SWACO's Household Hazardous Waste Center and mobile drop off/collection events. Household hazardous waste collection is for residents only; no materials from businesses are accepted. Businesses are advised through SWACO's website to contact a private vendor to inquire about the disposal of hazardous materials at a commercially licensed facility. This program is publicized through the Public Service Department and SWACO's website, social media, and local media.

Measurable Goal
The following measurable goals have been established for this program:

- Publicize locations of collection and recyclers of household hazardous waste through SWACO.
- In cooperation with SWACO, conduct annual HHW drop off events each year.
- Track amount of HHW collected per year.

Evaluation Methods
In conjunction with the Annual Report, the City will compile tracking data for the measurable goals, including the number of HHW drop-off events held and the amount of HHW collected. Meeting or exceeding the goal for maintaining links to SWACO's website through City website(s) and presentation of the information will be considered achievement of measurable goals.

Responsible Departments: DPU CO and Division of Refuse (for publicizing proper disposal of household hazardous and toxic materials).

2.1.4 BMP PE4 – Educate Lawn Care Businesses and General Public About Lawn Chemicals and Yard Waste

Rationale Statement

The City implements this targeted educational campaign to help make lawn care businesses and the general public aware of the impacts lawn chemicals (fertilizers, pesticides and herbicides) and yard waste pose to water quality and proper usage. The target audience for this BMP includes homeowners, lawn care businesses and garden centers because changing the behavior of these groups has the most potential to reduce stormwater impacts from lawn chemicals and yard waste. The measurable goals were selected to track development and implementation of the program.

Description and Implementation Approach

The City currently uses a variety of media to inform the general public and lawn care businesses about the proper use of lawn chemicals and yard waste disposal to minimize pollutant discharge. Media used include the DPU and Division of Refuse websites, Utility Update, 645-STREAM and other available literature distributed at various public locations.

The City entered into an agreement with Franklin Soil and Water Conservation District (FSWCD) to develop a nutrient management outreach program that focuses on activities that lawn care businesses can adopt and promote to their customers. FSWCD and its consultant will develop this targeted yard maintenance campaign in 2015 and begin implementation in 2016. Similar messaging will also be developed for when FSWCD staff and partners interact with residents who manage their own lawns. For those who want to learn more about a larger range of practices or the science behind nutrient management, FSWCD will have information on its website or in handouts available to them upon request. In return, lawn care businesses that participate in workshops and agree to certain practices are recognized as "green" businesses.

Measurable Goal

The following measurable goals have been established for this program:

- Include in the stormwater edition of the Utility Update distributed to 310,000 rate payers.
- Develop yard maintenance nutrient management program in 2015 and begin implementation in 2016.
- Publicize City's yard waste collection/recycling program offered through the Division of Refuse.

Evaluation Methods

In conjunction with the Annual Report, the City will compile and present tracking data for the measurable goals. Meeting or exceeding the goals for distributing information and maintaining information on Division of Refuse's website will be considered achievement of the measurable goals.

Responsible Departments: Department of Public Utilities Director's Office, Division of Refuse

2.1.5 BMP PI1 – Opportunity for Public Involvement, Storm Drain Marking Project

Rationale Statement

The City selected this public involvement activity to increase awareness that dumping wastes into storm drains contributes to water pollution and endangers wildlife. To this end, the City set out to actively involve environmental groups, homeowners associations, educational organizations and other stakeholder groups through their participation in the Storm Drain Marking Project. The measurable goals were selected to track implementation of this BMP by tracking program publicity and to reflect the effectiveness of this program by tracking the number of storm drain markers distributed.

Description and Implementation Approach

The Department of Public Utilities' "No Dumping, Drains to Rivers" storm drain marking project helps raise awareness that dumping wastes into storm drains contributes to water pollution and endangers wildlife. Volunteers apply vinyl markers on curbs near storm drain inlets. These markers read "No Dumping, Drains to Rivers," and "645-STREAM," the number to call to report improperly disposed material flowing to or placed within a storm sewer, ditch or waterway. The project is part of the City's water pollution prevention public education program. The DPU Communications Office provides the disks, adhesive and instructions. This program is publicized through a Utility Update bill insert, Franklin Soil and Water Conservation District newsletter to teachers, the City's website, and social media.

Measurable Goals

The following measurable goals have been established for this program:

- Solicit 150,000 homes for participation into the program via bill inserts.
- Distribute 300 storm drain markers to volunteer groups per year.

Evaluation Methods

In conjunction with the Annual Report, the City will compile quantitative tracking data for each of the measurable goals. Meeting or exceeding the quantitative goals for implementation of this BMP will be considered achievement of the measurable goals.

Responsible Departments: Department of Public Utilities Director's Office.

2.1.6 BMP PI2 – Central Ohio River Pride and Other Waterway Litter Cleanups

Rationale Statement

The City selected this public involvement activity to increase awareness of the impact of trash and litter on water quality and wildlife and actively involve affected stakeholder groups, including environmental groups, the general public and others. The measurable goals were

selected to track implementation of this BMP at providing opportunities for participation and program publicity.

Description and Implementation Approach
The City works with volunteers and environmental groups through the Central Ohio River Pride litter cleanups. Each spring, litter is a visible problem in many communities, with the stream and river banks being affected. Much of the litter in the communities washes into the waterway areas and can affect water quality and endanger wildlife. The Department of Public Utilities has declared June Central Ohio River Pride Month. During this event, the City has partnered with organizations such as the Mid-Ohio Regional Planning Commission, Friends of the Alum Creek and Tributaries, and the Friends of the Lower Olentangy Watershed to promote waterway cleanups. The Keep Columbus Beautiful Office under Public Service Department/Refuse Collection Division provides supplies for the events. This program is publicized through a Utility Update bill insert, the City's website, and social media.

Measurable Goals
The following measurable goals have been established for this program:

- Organize at least one stream or river cleanup per year.
- River Pride cleanups will be promoted to at least 150,000 Columbus households to encourage public participation.

Evaluation Methods
In conjunction with the Annual Report, the City will compile quantitative tracking data for each of the measurable goals. Meeting or exceeding the goals for implementation of this BMP will be considered achievement of the measurable goals.

***Responsible Departments*:** Department of Public Utilities Director's Office.

2.1.7 BMP PI3 – Onsite Stormwater Retention

Rationale Statement
The City selected this public involvement activity to educate residents about methods to reduce stormwater runoff and actively involve homeowners and the general public. The measurable goal(s) were selected to track program participation.

Description and Implementation Approach
The City of Columbus publicizes and provides homeowners and the general public opportunities to engage in stormwater retention activities via the GreenSpot Backyards Program.

Developed through a partnership between the City of Columbus and Franklin Soil and Water Conservation District, the GreenSpot Backyards Program makes it possible for residents to receive a rain barrel at a reduced price. The program's educational requirement helps homeowners understand how stormwater runoff affects local water quality, streambank erosion and flooding and how they can save money and conserve water and energy by not using potable

water for landscaping or gardens. Residents are required to register as GreenSpot members and either attend a workshop on the effects of stormwater on water quality or take an online quiz. The City publicizes the program through the department's website, social media, and the Utility Update bill insert.

Measurable Goals
The following measurable goals have been established for this program:

- Publicize and provide opportunity for onsite residential stormwater retention activities.
- Track the number of rain barrels sold through the rain barrel cost share program and rain gardens installed through the GreenSpot Backyards program.

Evaluation Methods
In conjunction with the Annual Report, the City will compile tracking data for each of the measurable goals. Publicity of the GreenSpot Backyards program on the City's website and other materials and presentation of the number of rain barrels sold and rain gardens installed will be considered achievement of the measurable goals.

Responsible Departments: Department of Public Utilities Director's Office, and Stormwater and Regulatory Management Section.

2.1.8 BMP PI4 – Pet Waste Collection Bags

Rationale Statement
The City selected this public involvement activity to increase awareness of the impact of pet wastes on water quality and actively involve affected stakeholder groups, including pet owners, by distributing pet waste collection bags in City parks. The measurable goal(s) reflect the effectiveness of this BMP by measuring participation through the number of bags distributed.

Description and Implementation Approach
The City provides pet waste/trash bag kiosks within Hoover and O'Shaughnessy reservoir and other City parks. Kiosks supply small plastic bags for the convenience of park visitors. The trash-bag kiosks are located near the entrances of highly used areas known for pet exercising and fishing. The bags assist in properly containing pet wastes and incidental trash. To promote proper pet waste disposal, the City created new signage for the kiosks, tying the signage to its Pick Up Poop (PUP) campaign. The signs communicate why PUPing is critical: "It's the Law and Keeps Our Water Clean."

Measurable Goals
The following measurable goals have been established for this program:

- Establish and maintain kiosks in City parks with pet waste bags.
- Distribute pet waste bags for use at City parks.

Evaluation Methods
In conjunction with the Annual Report, the City will compile tracking data for the number of pet waste collection bag kiosks that were maintained and the number of pet waste collection bags that were distributed. Presentation of the number of kiosks maintained and the number of pet waste collection bags that were distributed will be considered achievement of the measurable goals.

Responsible Departments: Department of Public Utilities Director's Office, Division of Water, Watershed Management Section, and Recreation and Parks Department.

2.1.9 BMP PI6 – Watershed and Land Stewardship

Rationale Statement
The City selected this public involvement activity to actively involve affected stakeholder groups, including environmental groups, the farming community, and educational organizations, among others in the protection of the streams and rivers which supply the City's drinking water and to which the City's MS4 discharges. The measurable goals were selected to track implementation of this BMP in terms of the number of visits and contacts made by the Division of Water (DOW) to involve citizens in the Land Stewardship Program.

Description and Implementation Approach
The Department of Public Utilities, Division of Water (DOW) works with volunteers and citizens through the following programs:

- Big Walnut Creek - The Big Walnut Creek Water Quality Partnership, which started in 1997, works to bring USDA grant dollars to agricultural producers for the development of buffer strips and NRCS-certified conservation practices along Big Walnut Creek and watershed tributaries. A reduction of sediment and nutrients flowing into Hoover Reservoir and a reduction in Atrazine are added benefits of this program. The Partnership offers workshops, distributes educational materials and holds quarterly meetings with researchers, farmers, water quality scientists, agronomists and others to address water quality improvements.

- Bokes Creek/Powder Lick - The Bokes Creek/Powder Lick 319 and WRSSP projects are in cooperation with the Scioto River Valley Federation and Oxbow Stream Restoration Inc. These projects have restored natural meanders to a channelized stream segment flowing through a large egg farm operation. DOW is supporting the project by providing some nutrient monitoring and purchasing permanent conservation easements on the restored stream segments, which include buffers of warm season grasses and trees to improve stream habitat and remove excess nutrients from adjacent agricultural fields.

- Friends of the Big Walnut Creek – The DOW has been supporting this watershed group through technical knowledge and information sharing. The group is seeking to identify impairments and potential corrective actions for impaired segments of the Big Walnut Creek from Hoover Dam south.

- Scioto River - The Upper Scioto River Watershed Advisory committee developed a Scioto River watershed action plan supported by technical knowledge and sampling data from the DOW. The Scioto CREP program became effective in 2005 with the goal of protecting major Scioto River watershed sub-basins (some 30 counties) by reducing sediment, nitrate, phosphorus and Atrazine runoff. Columbus will play a role in supplying water quality data for purposes of evaluating best management practice performance over the life of the 15-year project.

- Reservoir Green Infrastructure Projects – Visitors can take a self-guided tour along the shoreline of Griggs, O'Shaughnessy & Hoover Reservoirs to learn about the green infrastructure on site. The City has implemented a variety of practices to capture and treat stormwater flowing from nearby neighborhoods and roadways. Examples of rain gardens, pervious (porous) pavement, shoreline stabilization and more can be seen and will inspire residents to consider similar projects for their own homes.

- Reservoir Land Stewardship – The Land Stewardship program with adjoining reservoir landowners seeks to educate and enlist all private property owners sharing a boundary with water supply reservoirs in an agreement to avoid unauthorized encroachments and install native vegetation around reservoirs to help reduce pollutants in runoff. A staff of Watershed Rangers regularly inspects and patrols the shorelines of the reservoirs to identify and resolve encroachments and potential sources of pollution.

Measurable Goals
The following measurable goals have been established for this program:

- The DOW will perform 400 inspections per year of reservoir landowner properties in the Land Stewardship Program.

- The DOW will make 250 contacts per year to provide information and assistance to reservoir landowners in preparing or complying with a Land Stewardship Agreement.

Evaluation Methods
In conjunction with the Annual Report, the City will compile quantitative tracking data for each of the measurable goals. Meeting or exceeding the quantitative goals for implementation of this BMP will be considered achievement of the measurable goals.

Responsible Department: Department of Public Utilities Division of Water

2.1.10 BMP PI7 – Public Hearings and Presentations

Rationale Statement
The City selected this public involvement activity to actively involve all potentially affected stakeholder groups, including commercial and industrial businesses, trade associations, environmental groups, homeowners' associations and educational organizations and others. The measurable goals were selected to track implementation of this BMP by tracking program publicity and the number of opportunities provided for public involvement.

Description and Implementation Approach
The City holds public hearings and presentations that provide an opportunity for public involvement and participation on an as-needed basis. Public hearings and presentations are advertised on DPU's website, as well as via direct mail and/or community newspaper, depending on the nature of the meeting. On larger meetings of citywide interest, a news release may be issued.

Measurable Goals
The following measurable goals have been established for this program:

- Publish public meeting dates and locations on the City's website and/or by email/mail subscriber notification.

- Hold at least one public hearing or meeting per year where residents can comment on stormwater services. This may include City Council's annual hearing on stormwater sanitary and water rates or meetings between DPU and the Central Ohio Watershed Council to keep information current and answer any questions about water quality concerns.

- Make available public comment opportunities at City Council meetings.

Evaluation Methods
In conjunction with the Annual Report, the City will compile tracking data on public meeting opportunities and publicity. Meeting or exceeding the quantitative goals for implementation of this BMP will be considered achievement of the measurable goals.

Responsible Departments: Department of Public Utilities Director's Office.

2.1.11 BMP PI8 – GreenSpot

Rationale Statement
The City selected this public involvement activity to actively involve all potentially affected stakeholder groups, including the general public, homeowners, and commercial and industrial businesses. This BMP and its measurable goals allow the City to measure awareness and participation in multiple sustainability initiatives among both residential and commercial audiences through a single channel.

Description and Implementation Approach
The City developed its web-based GreenSpot program to inspire, educate and recognize residents, businesses and community groups who make commitments to live more sustainably, including water quality protection. The GreenSpot program distributes education information through bill inserts, presentations, workshops and webinars, social media and tabling at events.

The City's GreenSpot Kids program provides families and schools opportunities to integrate sustainability into everyday life with free resources designed to supplement science curriculum for first grade students including children's books, worksheets and activities. Resources include a

classroom set of the book GreenSpot and the Dots, reusable poster size charts to track and recognize students' green accomplishments, enrichment activities and worksheets, a website designed for kids and teachers, in-class presentations, and the chance for a school to be honored with a GreenSpotLight Award. The Green Walk map features stormwater BMPs and other related sites and is available at the Whetstone Recreation Center, Whetstone Library, and on the GreenSpot Kids website.

GreenSpot's online application requires a minimum number of commitments to implement sustainable or best management practices in the applicant's household or business. The application and commitments are offered for five participant categories: households; industrial/commercial; office, educational institutions and nonprofits; restaurants, grocers and retailers; and community groups. The commitments presented in the application include multiple pollution prevention and onsite stormwater retention practices that correspond to the City's targeted stormwater public education themes. For business participants, the GreenSpot Corporate Sustainability Initiative also provides targeted themes and audiences with peer to peer and City support.

Measurable Goals
The following measurable goals have been established for this program:

- Inspire and educate residents, businesses and non-profit/community groups on how to live greener, more sustainable lives, including tips on water quality protection, through various outreach efforts.
- Track the number, types, and locations of new GreenSpot signups annually and evaluate trends over time.
- Increase the number of GreenSpot households by 1,500 new signups annually.
- Increase the number of GreenSpot businesses by 10 percent annually.

Evaluation Methods
In conjunction with the Annual Report, the City will compile tracking data on GreenSpot public involvement activities. Presentation of these activities in the Annual Report will be considered achievement of the measurable goals.

Responsible Departments: Department of Public Utilities Director's Office.

2.1.12 BMP PI9 – Central Ohio Children's Water Festival and Other School Programs

Rationale Statement
The City selected this public involvement activity to increase participation of children, who will be our next generation of environmental stewards. The measurable goals were selected to track implementation of this BMP at providing opportunities for participation.

Description and Implementation Approach

The City of Columbus provides multiple programs and events to involve children, schools, and other youth groups in its sustainability initiatives:

- Central Ohio Children's Water Festival - Each year hundreds of children are welcomed to the Central Ohio Children's Water Festival to learn about drinking water, waste water, stormwater and natural resource protection through hands-on activities. In recognition of the national Drinking Water Week, the Columbus Department of Public Utilities hosts nearly 400 fifth-graders and teachers each spring. The purpose of the event is to educate children on the water resources, from source to tap. Partnering organizations for this annual event include: Franklin Soil and Water Conservation District, Delaware Soil and Water Conservation District, Friends of the Lower Olentangy Watershed, Metro Parks, Mid-Ohio Regional Planning Commission, Ohio Environmental Protection Agency, The Ohio State University Extension, and businesses.

- Columbus City Schools Program - The City provides funding to support Franklin Soil and Water Conservation District programs in Columbus City Schools. These programs provide activities and education on stormwater topics including water quality, soils and soil erosion to at least 3,000 students. A variety of programs and hands on displays are available to teachers and adaptable to meet specific needs.

- Department of Recreation and Parks, Outdoor Education Center - With a mission to instill a lifelong appreciation for the outdoors and the environment, staff at the City's Indian Village facility provide field trip and onsite programming. Located on the west bank of the Scioto River at Griggs Reservoir, Indian Village features trails, caves, creeks and mature trees to form the backdrop for students to explore and discover nature.

- Department of Public Service, Keep Columbus Beautiful (KCB) – KCB offers a variety of presentations, activity books, lesson kits, and teacher workshops that can be used in a classroom setting or with a group. KCB's Education and Outreach Coordinator will also facilitate environmental activities for elementary age (Grades K-5) students. Activities provide students with knowledge, information, and skills to help them make informed, responsible decisions about solid waste management and its effect on people, their community, and the environment.

Measurable Goals

The following measurable goals have been established for this program:

- Provide opportunities for children to participate in events annually.

- Track the estimated number of participants in children's events annually.

Evaluation Methods

In conjunction with the Annual Report, the City will compile tracking data for the measurable goals. Presentation of the number and type of events and estimated participants in the Annual Report will be considered achievement of the measurable goals.

Responsible Departments: DPU Director's Office

2.1.13 BMP PI10 – 645-STREAM Hotline

Rationale Statement
The City selected this public involvement activity to provide the general public with a consistent means of reporting materials improperly placed in or disposed to the stormwater system. The measurable goals were selected to track implementation of this BMP in terms of annual program publicity.

Description and Implementation Approach
The City established the "645-STREAM" hotline to report a potentially hazardous material flowing to or placed within a storm sewer, ditch or waterway. The hotline number is publicized through storm drain markers, the DPU website, public service announcements, bill inserts and on related news releases. The hotline provides callers with recorded information and connects the caller to the Sewer Maintenance and Operations Center (SMOC) by a "dial 0" prompt. Calls are tracked through the City's Sewerweb database and handled the same as if they had come in directly to SMOC.

Measurable Goals
The following measurable goals have been established for this program:

- Maintain a hotline for residents to call to report illicit discharges.

- Publicize hotline in at least one publication each year.

Evaluation Methods
In conjunction with the Annual Report, the City will compile tracking data for the measurable goals. Presentation and discussion of the reported problems/incidents investigated in the Annual Report and publicity of the hotline through the DPU website will be considered achievement of the measurable goals.

Responsible Departments: DPU Director's Office and the Sewer Maintenance Operations Center.

2.2 Assess Changes in Public Awareness

Required SWMP Component
The City must assess changes in public awareness and behavior resulting from implementation of its public education program using mechanisms such as surveys, direct evaluations, interviews, or other mechanisms the City determines appropriate.

2.2.1 BMP PE5 – Develop and Implement Program Assessment Mechanisms

Rationale Statement

An informed and knowledgeable community is crucial to the success of the City's stormwater management program because it will inspire greater support and participation in the program. To assess the stormwater public education program, the City selected this BMP because it measures awareness and participation in multiple sustainability initiatives among both residential and commercial audiences through a single channel. The measurable goals were selected to assess baseline awareness and changes in awareness and behavior over time.

Description and Implementation Approach

The City developed its web-based GreenSpot program to inspire, educate and recognize residents, businesses and community groups who make the commitment to live more sustainably. The program requires a minimum number of commitments to implement sustainable or best management practices in the applicant's household or business. Educational information is distributed through the program website, social media, webinars and workshops for businesses, and other materials.

The application and commitments are offered for five participant categories: households; industrial/commercial; office, educational institutions and nonprofits; restaurants, grocers and retailers; and community groups. The commitments presented in the application include multiple pollution prevention and onsite stormwater retention practices that correspond to the City's targeted themes. Because the GreenSpot program is housed in the Department of Public Utilities (DPU), the Department is able to modify or add commitments to the application to ensure they are aligned with the City's MS4 goals.

By tracking the numbers, types, and locations of new GreenSpot signups over time, the DPU will be able to assess trends in awareness and participation in the City's multiple sustainability initiatives. This will help to identify specific audiences that the City's "green" education programs are or are not reaching, so that the messages and/or distribution methods may be modified to be more effective.

Measurable Goals

The following measurable goals have been established for this program:

- Track the number, types, and locations of new GreenSpot signups annually and evaluate trends over time.
- Increase the number of GreenSpot households by 1,500 new signups annually.
- Increase the number of GreenSpot businesses by 10 percent annually.

Evaluation Methods

In conjunction with the Annual Report, the City will compile quantitative tracking data for each of the measurable goals. Meeting or exceeding the quantitative goals for implementation of this BMP will be considered achievement of the measurable goals.

Responsible Departments: Department of Public Utilities Director's Office

Section 3
Illicit Discharge (ID) Program

The City continues to implement its program to detect and eliminate illicit discharges into its MS4. The program's best management practices (BMPs) include regulations and procedures for detection, elimination, enforcement, and tracking. Throughout implementation of the program, the City refers to Illicit Discharge and Detection and Elimination, A Guidance Manual for Program Development and Technical Assessments, developed in cooperation with the Center for Watershed Protection and Robert Pitt with the University of Alabama. The following sections detail the BMPs selected to address the required regulations and procedures identified by the City and the Permit.

3.1 Prohibit Non-Stormwater Discharges

Required SWMP Component

The City must prohibit non-stormwater discharges to the MS4, except those identified in the permit or authorized by a separate NPDES permit.

3.1.1 BMP ID1 – Enact and Enforce City Code to Prohibit Non-Stormwater Discharges

Rationale Statement

City Codes 1145.85 and 1145.86 prohibit wastewater and other non-stormwater discharges to storm sewers and we enacted by City Council in 1993. The measurable goals were selected to track this BMP's implementation over time in terms of review and comparison to subsequent NPDES MS4 permits.

Description and Implementation Approach

The following summarizes City Codes 1145.85 and 1145.86:

City Code 1145.85 – Wastewater Discharge to Storm Sewers: No person shall discharge, or allow to be discharged, wastewater to the City storm sewers without a valid NPDES permit. Existing wastewater discharges to the City's storm sewers which are licensed pursuant to Ohio Administrative Code Section 3701-21 shall be eliminated within a reasonable time after sanitary sewer service is available to the premises, or sooner if required by the federal or state law. No person shall discharge wastewater to the City's storm sewers in violation of an applicable NPDES permit or license issued pursuant to Ohio Administrative Code Section 3701-21 ((Ord. No. 1327-2012).

City Code 1145.86 – Non-stormwater Discharge to Storm Sewers: Except as authorized by a valid NPDES permit or as authorized in writing by the Director, any direct or indirect discharge to the storm sewer that is not composed entirely of stormwater is prohibited. (Ord. No. 1327-2012).

Measurable Goal
The following measurable goal has been established for this BMP:

- Review City Code at the beginning of each five-year permit cycle, comparing the codes to EPA Permit regulations. Revise City Code as necessary.

Evaluation Methods
In conjunction with the first Annual Report for this permit cycle, SRMS will review the City Codes prohibiting wastewater and other non-stormwater discharges to storm sewers and, if necessary, will recommend revision to comply with EPA permit regulations. Discussion of this review in the Annual Report will be considered achievement of the measurable goal.

Responsible Department: Stormwater and Regulatory Management Section, Department of Public Utilities Regulatory Compliance Section, and City Attorney's Office

3.2 Mapping

Required SWMP Component
In addition to city outfalls previously mapped, the City must expand its storm sewer map to include the known elements of its MS4 network. The MS4 network includes the stormwater catch basins, pipes, ditches, flood control facilities (retention/detention ponds), and post-construction water quality BMPs that constitute its MS4. The locations of private post-construction water quality BMPs must also be shown. Information representing locations for surface Waters of the State must also be shown and may be based on current available data from other federal, state, or local agencies. The following information must be maintained and submitted:

1) The locations of the City's stormwater outfalls.

2) The locations and addresses of known home sewage treatment systems (HSTS) that discharge into the MS4 including details on the type and size of conduits/ditches in the MS4 that receive discharges from HSTSs.

The Annual Report shall describe the sources of information used to update the map and how outfall locations are verified.

3.2.1 BMP ID2 – Storm Sewer Mapping

Rationale Statement
The City uses GIS to update its storm sewer map and to assist in the illicit discharge detection and elimination (IDDE) program. The measurable goals were selected to track implementation of this BMP over time in terms of completion and annual updating of the required map features.

Description and Implementation Approach
To enhance the City's capabilities to readily obtain MS4 network information, the City completed the conversion of its sewer atlas maps into a seamless Geographic Information

System (GIS). Both sanitary and storm sewer systems are geographically referenced for GIS applications from plan information. Storm sewer information is continuously added to the GIS network as construction drawings are submitted to the City for review and approval. Elements of the GIS network will be used to expand and update the map specified under the Permit.

The City completed, and currently maintains, a storm sewer map that shows the location of its stormwater outfalls, catch basins, pipes, and stormwater quality and quantity control facilities that constitute its MS4; locations for surface Waters of the State; and private home sewerage treatment systems (HSTS) known to discharge to the City's MS4. The DPU uses existing information available in GIS format from the United States Geological Survey (USGS) to map Waters of the State that lie within or traverse the City of Columbus. The location of ditches is mapped by the Franklin Soil and Water Conservation District. Ongoing updates to the storm sewer map are conducted using the following processes:

1) MS4 network elements, including future MS4 outfalls and stormwater quality and quantity control facilities, are added to the map based on information provided by approved construction drawings for proposed developments and capital improvement projects.

2) Review of city and county health department records reveals that the type and location of many discharging home septic systems within the city are undocumented. Given the unknown nature of these facilities, the city compiled a list of "possible" HSTS locations for further investigation. The list is comprised of parcels where an inhabitable structure exists and where no sewer tap records or sewer billing account is available. Attempts to solicit information from home owners at "possible HSTS locations" were made through use of questionnaires and onsite evaluations by the City where possible. Mapping of HSTS locations is updated as Columbus Public Health (CPH) evaluates parcels currently designated as "possible HSTS locations."

3) Mapping is also updated by reviewing parcel annexation information annually to determine if any stormwater outfalls or properties served by HSTSs exist in newly annexed areas.

4) Sewer tap permits are reviewed throughout the year to determine what parcels, once served by a HSTS, are connected to the City's central sanitary sewer system. Once connected to the central sewer system, the HSTS address and location are removed from the storm sewer map.

Measurable Goals
The following measurable goals have been established for this BMP:

- Annually review and update mapping of existing MS4 infrastructure and outfalls.
- Annually review and update, if necessary, the list of HSTSs that have been found to discharge to the City's MS4.

Evaluation Methods
In conjunction with the Annual Report, the City will review the status and tracking data related to maintaining and updating the mapping of the MS4 infrastructure and outfalls and the HSTS locations. The City will use its Annual Report to report progress toward maintaining and updating the map.

Responsible Department: Department of Public Utilities, Stormwater and Regulatory Management Section, GIS Mapping Section, Columbus Public Health

3.3 Illicit Discharge Detection Program

Required SWMP Component
The City must continue to implement its plan to detect and address illicit discharges. The plan must have the following components:

1) Procedures for locating areas with the higher likelihood of illicit connections.

2) Procedures for tracing the source of an illicit discharge. Identify the specific techniques that may be used to detect the location of the source.

3) Procedures to detect and address illegal spills and dumping. The plan must include dry weather field screening for non-stormwater discharges at 20 percent of MS4 outfalls annually.

4) Methods to manage discharges from existing HSTSs.

3.3.1 BMP ID3 – Dry Weather Field Screening Procedures and Activities

Rationale Statement
The City performs dry weather field screening procedures to detect the discharge of illegal substances into the City's storm sewer system and to identify areas that may have a higher likelihood of illicit connections. Dry weather field screening is performed to help identify illicit sanitary sewer connections, industrial discharges, improper disposal of wastes, and other contaminants (used oil, paint, etc.) that may be illegally discharged. The measurable goals were selected to track implementation over time of this BMP in terms of inspecting each outfall at least once within the five year permit term and providing annual training and review of the procedures.

Description and Implementation Approach
The City continues to conduct its dry weather screening program to help identify non-stormwater discharges to the City's MS4. The dry weather screening program involves a combination of visual surveillance and chemical analysis that are used to detect possible illicit connections and illegal discharges. General field screening procedures include:

1) Outfall Screening Order: At least 20 percent of outfalls citywide are field screened per year, weather permitting. The City will screen MS4 stormwater outfalls in each of the following six 11-digit HUC watersheds:

    a. Olentangy (05060001-120)

    b. Scioto (05060001-080 and 05060001-230)

    c. Alum Creek (05060001-160)

    d. Hellbranch Run (05060001-220)

    e. Big Walnut (includes Rocky Fork Creek and Blacklick Creek) (05060001-140)

    f. Walnut (05060001-180)

2) Locating Priority Areas: The City prioritizes areas for illicit connection investigation based on historical results from dry weather screening information, records of reported spills or illicit discharges, and land uses historically associated with connections to storm sewer systems (e.g. older industrial areas, areas served by HSTSs). Prioritized locations include areas served by storm systems where possible illicit discharges during outfall screenings were detected. HSTS areas have been identified through record research, questionnaires, sampling, and dye testing. Land use areas historically associated with connections to storm sewer systems have been prioritized based on dry weather sampling, history of illicit discharge and windshield survey (ongoing). The City is reviewing archived storm sewer video tapes of the storm sewers in these areas for illicit connections. The City will immediately investigate any potential illicit connection when discovered. If no video tapes exist in a specific area, the City will sample the downstream storm sewer system to determine if an illicit connection exists. The downstream storm sewer system will be televised to confirm the connection if sample results show evidence of illicit discharge to the MS4.

3) Outfall Location and Reconnaissance: Outfalls are located using coordinate information generated from DPU's storm sewer GIS mapping. Site reconnaissance is performed to validate the GIS locations.

4) Field Crews: Each field crew is equipped with a vehicle to transport personnel and equipment to the field screening location, proper footwear (sturdy boots or waders), and latex gloves. The number of personnel assigned to screen an outfall location is determined by the health and safety risks to the sampling crew. Outfalls that pose no or a minor risk may be screened by a single stormwater investigator. Outfalls posing moderate to high risks, will be screened using a crew of two or more field personnel.

5) Dry Weather: Dry weather screening will preferably occur during periods beginning 72 hours following a significant rain event; however, during wetter parts of the year, this requirement may be reduced to 48 hours to increase the amount of dry weather available for screening.

6) Field Screening – Visual Observations: Field screening consists of visual observations and field testing. The following visual and quantitative observations are collected in the field using handheld GPS units:

    a. Site ID number, date, and time;

    b. Primary Indicators (presence of any of these will automatically initiate an illicit connection and illicit discharge investigation):

        i. Color,

        ii. Odor,

        iii. Turbidity,

        iv. Oil sheen; and

    c. Secondary Indicators:

        i. Floatables,

        ii. Vegetation damage,

        iii. Deposits, stains,

        iv. Damage to sewer and outfall structure,

        v. Flow estimate, and

        vi. Temperature.

        vii. Excessive vegetation

7) Field Screening – Grab Sample Procedures: If dry-weather flow is present, the following procedure will be used for grab sample collection and testing:

    a. The investigator will use a decontaminated polyethylene plastic sample bottle that is opaque or clear.

    b. To limit chances of contamination and for personal safety, sampling personnel are to wear surgical gloves when collecting the sample, and wash hands with sanitary wipes after the sample(s) is collected.

    c. Take grab from the horizontal and vertical center of the channel using a clean collection container.

d. Avoid disturbing bottom sediments in the channel.

e. Hold container so the opening faces upstream.

f. Rinse the sample container with the sample water three times.

g. Avoid touching the inside of the container to prevent contamination.

h. Keep the sample free from uncharacteristic floating debris.

i. Field testing is performed using CHEMetrics field test kits following the manufacturer's specifications. **Table 3-1** lists the field testing parameters and limits. Limits are based on the U.S. EPA's Quality Criteria for Water (1986). **Table 3-2** lists good measurement practices for assignment and adjustment of calibration intervals and methodologies for stormwater field testing standards.

8) Investigation: If field testing indicates a positive result (exceeding the limit for any of the field testing parameters in Table 3-1) the City will immediately investigate for the source following the procedures in Section 3.3.2. Dry-weather discharges may be intermittent, so immediate investigation is necessary.

9) Laboratory Analysis: If field screening determines a positive result and the field investigation does not determine the source, the City will follow-up with laboratory analysis to aid with the investigations. **Table 3-3** lists the parameters for laboratory analysis. When collecting samples for laboratory analysis, the investigator will use three plastic bottles for the following parameters: pH, surfactants, fluoride, hardness, ammonia, phosphorous, and total residual chlorine. Return samples to the laboratory immediately.

Table 3-1. Field Testing Parameters and Limits

Parameters	Limits	Justification
Chlorine	1.0 ppm	High concentrations are indicator of potable water source (e.g., water line break), swimming pool discharge, or industrial discharge from chlorine bleaching process.
Copper	0.1 ppm	Indicator of industrial copper use, domestic wastewater, and copper pesticides and algaecides.
Phenols	1.5 ppm	Indicator of domestic and industrial wastewater.
Ammonia	2.5 ppm	Good indicator of raw sewage. High concentrations may also indicate liquid industrial wastes.
Surfactants	1.0 ppm	Excellent indicator of sewage, wash waters, and industrial or commercial liquid wastes.
pH	6.5 – 9.0	Reasonably good indicator for liquid wastes from industries.
Temperature	See rule 3745-1-07, Table 7-14, paragraph (C) of the Ohio Administrative Code for guidance	Indicator of sewage or industrial cooling water.

Table 3-2. Calibration Practices for Field Testing Standards

Item	Calibration Intervals	Source	Method Used
pH meter	Daily	Manufacturer's Specification	Calibrate using three buffer solutions per manufacturer's specification
D.O. meter	Weekly	Manufacturer's Specification	Calibrate to standardize LIST thermometer located in the City's Surveillance Lab
Thermometer	Once per year	Lab	Calibrate using barometric pressure and per manufacturer's specification.

Table 3-3. Laboratory Testing Parameters

Parameters	Justification
pH*	Good indicator of industrial wastes and residential wash waters.
Surfactants*	Excellent indicator of sanitary wastewater, wash waters, and industrial or commercial liquid wastes.
Fluoride*	Excellent indicator of tap water discharges or leaks from water supply pipes.
Hardness*	Indicator of natural groundwater.
Ammonia*	Good indicator of sanitary wastewater. High concentrations may also indicate liquid industrial wastes.
Phosphorous*	Indicator of sanitary wastewater and fertilizer.
Total Residual Chlorine*	Indicator of potable water source
Other substances based on land use and potential pollutant sources in the area.	Narrows source of substance detected to a specific discharger; assists in identification of responsible party

*Permit mandated parameter

Measurable Goals
The following measurable goals have been established for this BMP:

- Review annually for update, written dry weather field screening procedures.
- Field crews will receive annual training in dry weather field screening procedures.
- Dry weather field screen 20 percent of MS4 outfalls each year.

Evaluation Methods
In each Annual Report the City will report on the progress toward achieving the goals of field screening all MS4 outfalls within the five-year permit term. SRMS will consider whether this goal has been achieved at the end of the five-year permit term. The City will also discuss training and the annual review of these procedures in the Annual Report. Discussion of the procedure review in the Annual Report will be considered achievement of the measurable goals.

Responsible Department: Stormwater and Regulatory Management Section

3.3.2 BMP ID4 – Illicit Discharge Investigations

Rationale Statement
The City implements its illicit discharge response, investigation, and notification procedures to address illicit discharges that may enter, or have the potential to enter, into the City's storm sewer system.

The purpose of these procedures is to:

- Reduce the likelihood of pollutants from entering the City's MS4;
- Help identify the source of the pollutant, and if possible the responsible parties; and
- Ensure the required persons, departments, or agencies are contacted and informed of the discharge.

The measurable goals were selected to track the implementation of this BMP in terms of procedure application, training, and regular review and modification, if necessary, of the procedures.

Description and Implementation Approach

The City's written procedures are designed to address the following instances of an illicit discharge to the City's storm sewer system:

1. DOSD receives a report of a spill or industrial release of hazardous or toxic pollutants that have the potential to enter the City's storm sewer system,
2. DOSD receives a report of illegal dumping into the City's storm sewer system,
3. DOSD receives a report that sanitary sewerage has been discovered entering the City's storm sewer system, and
4. Stormwater investigators discover potentially contaminated dry weather flow during dry weather field screening activities.

DOSD's standard operating spill response procedure is provided in **Appendix B**. This procedure describes how DOSD will respond, contain (if possible), and notify appropriate parties in instances where reports of illicit discharges as described under items 1, 2, and 3 are received.

The response procedures for illicit discharges discovered during dry weather field screening are handled differently depending on the type of contaminant discovered. Given the intermittent nature of dry weather discharges and the fact that upon discovery stormwater investigators are aware of the discharge, an investigation will be initiated immediately by the stormwater investigator(s) currently onsite.

The following response, investigation, and notification procedures are intended to supplement information provided in the City's spill response procedure and to assist stormwater investigators investigating illicit discharges discovered during dry weather screening events.

1) Investigation: To identify the location of the source and prevent further contamination downstream, investigators will use the following illicit connection and illicit discharge (ICID) investigation procedures:

a. Containment: Provide containment at the outfall, if possible, if containment is not otherwise provided by first responders.

b. Acquire existing evidence: Interview available witnesses for information including names, addresses, phone numbers, observations, etc. Collect discharge samples for future evidence and testing. Take photographs showing the contamination of the storm sewer system and/or water body, and record any field tests and results that were performed during the investigation. **Exhibit 3-1** presents the Illicit Discharge Investigation form.

c. Review of existing records and documentation to expeditiously identify the most probable source(s) of the illicit discharge:

    i. For all illicit discharge types, review available records and maps for the storm system in the outfall service area of concern to isolate higher probability areas where a pollution source may exist. Information of past reported pollution problems should be reviewed, including past ICID investigations, existing land use mapping, complaints, smoke testing studies, and in-pipe video camera inspections of the storm sewer system. Specific sources of information include site/drainage system drawings available in the City's Falcon system, sewer permits, sewer atlas mapping, and aerial photography.

    ii. For industrial releases, and in addition to the information described above, investigators should review the City's current industry inventory for industries that are located within the watershed from which the discharge is occurring, Storm Water Pollution Prevention Plans (SWPPPs) for industries in the watershed that list known materials that are stored or handled onsite, and information provided in the iPacs database that tracks information about industrial pretreatment inspections conducted by the City.

    iii. For sanitary sewerage discharges that are not related to a sanitary sewer overflow (SSO) event, atlas maps showing the location of the City's sanitary sewer system in relation to the storm system conveying the sanitary discharge should be reviewed. The map developed by the Department of Public Utilities showing the locations of home sewerage treatment systems (HSTS) shall also be reviewed to determine presence of any HSTSs in the areas that might be contributing to the discharge.

d. In-pipe and instream tracking inspections: Next, a manhole-to-manhole inspection will be conducted in high-probability areas. This step is a search, test, and locate technique that may operate the entire outfall area depending on the size of the area and the number of probable sources for discharge. Once a pollution problem in an area is found, additional testing and inspections will move to the next upstream manhole until the problem is isolated between two structures. **Exhibit 3-2** presents the Illicit Connection and Illicit Discharge Tracking form.

e. Testing of suspected sources: Once manhole inspection and testing efforts narrow the outfall area to a single manhole, testing of the suspected source will be necessary. Suspected source testing may be conducted by using smoke testing, dye testing, or pipe-line video camera inspection. Procedures for testing releases from suspect industries shall be conducted in accordance with Section 8. Procedures for tracking and testing the source of sanitary discharges that are not SSO related are summarized in the spill response procedure provided in Appendix B.

2) Notification of other agencies: **Appendix C** provides a list of the organizations that must be contacted in response to an illicit discharge and/or during stormwater investigations, along with their associated phone numbers**.**

3) Investigation reporting and tracking: Information collected during illicit discharge investigations shall be compiled and entered into the City's ICID investigation database described in Section 3.5. Follow-up to ensure that the illicit discharge does not re-occur and that Best Management Plans are implemented is mandatory. **Exhibit 3-3** presents the Follow-up Investigation Form.

Measurable Goals
The following measurable goals have been established for this BMP:

- Review for update, written procedures that describe how to identify and trace illicit discharges and who should be notified in the instance of an illicit discharge, spill, or illegal dumping.

- Train investigators annually on established procedures for illicit discharge investigation, response, and notification.

- Investigate each illicit discharge detected during dry weather field screening.

- Respond, when notified, to each instance of a spill, illegal dumping, sanitary discharge, failing HSTS discharge, or industrial release per the established procedures.

Evaluation Methods
In conjunction with the Annual Report, the City will compile data documenting the number of illicit discharges detected and investigated, instances of investigator staffing and training, and calls to contacts. The investigation of each illicit discharge and presentation of this information in the Annual Report will be considered achievement of the measurable goals.

Responsible Department: Stormwater and Regulatory Management Section

3.3.3 BMP ID5 – Management of Home Septic Treatment Systems

Rationale Statement

Discharges from HSTSs that do not operate properly can produce high levels of nutrients, bacteria, and sediment to the storm sewer system. To reduce discharges from improperly maintained and operated HSTSs the City must:

- Identify residences with individual discharging HSTSs that can be legally, feasibly and economically connected to central sewers.
- Implement an operation and maintenance program to determine if discharging HSTSs are operating as designed and intended and, for those not meeting this criteria, require elimination, upgrade or replacement of the systems as appropriate.
- Actively investigate the source(s) of contamination in outfalls identified during dry weather screening to identify improperly operating HSTSs. (See Section 3.3.2)
- Evaluate planned and possible future installation of sewers for areas which contain high densities of discharging HSTSs.

The measurable goals were selected to track the implementation of this BMP in terms of the number of HSTSs inspected, upgraded, or eliminated through connection to central sanitary sewers.

Description and Implementation Approach

Identification of HSTSs near Existing Sanitary Sewers: Ohio EPA's preference is to connect failing existing HSTSs to nearby central sanitary sewers, where sewers exist, rather than force homeowners to upgrade to new HSTS systems. Through mapping updates of known and "possible" HSTS locations, as well as mapping of the City's sanitary sewer system, efforts are ongoing to identify addresses where connection to central sewers is feasible. Properties currently served by HSTSs that are within 200 feet of, and have unobstructed access to, an existing sanitary sewer are identified and forwarded to Columbus Public Health (CPH). CPH then issues orders to identified homeowners that require them to connect to the sanitary sewer. Owners have 90 days to connect to the sanitary sewer and abandon their HSTS from the date the orders are issued. An extension of up to nine months is also available to homeowners that require more time for connection.

HSTS Operation and Maintenance Program: All off-lot discharging HSTSs are required to obtain an operational permit through Columbus Public Health. This operational permit requires that an inspection be performed at least once a year to ensure that the system is not a public health nuisance, as specified in Ohio Revised Code 3718.011, and is operating in accordance with the Columbus City Health Code CHAPTER 225. This onsite inspection is also conducted to verify compliance with the operation and maintenance instructions and any conditions of an operation permit issued by the Board of Health. More specifically, during the inspection some elements of the systems that are inspected include the aeration motor, other mechanical components, the discharge point location, and the effluent quality. If the system is considered out of compliance,

a notice of violation and order to correct is issued to the property owner. When a property fails to meet compliance the operation permit is subject to suspension or revocation.

Any off-lot discharging operational permits that have been issued to a property after January 1, 2007 must meet compliance with National Pollutant Discharge Elimination System (NPDES) requirements and sewage treatment system (STS) pretreatment components. NPDES permits regulate wastewater discharges by limiting the quantities of pollutants to be discharged and imposing monitoring requirements and other conditions. These systems are required to be operated, maintained, and monitored as necessary to assure compliance with the final effluent limitations set forth in a valid NPDES permit for the HSTS. Additional requirements for NPDES systems involve obtaining a service contract and sampling of NPDES discharges performed in accordance with the NPDES permit monitoring requirements. Once a year, Columbus Public Health submits a report including sampling data to the Ohio Environmental Protection Agency for these locations.

It is likely that additional off-lot discharging HSTSs will be added to CPH's inspection program as mapping is updated in newly annexed areas and parcels currently designated as "possible HSTS locations" are further evaluated by CPH.

Planning for Future Sewer Extensions

In instances where properties currently served by HSTSs are unable to connect to an existing central sanitary sewer, sewer service may be extended where economically feasible to do so. Using the HSTS mapping prepared during the last permit cycle, the City will identify extension areas that are feasible to serve with new sanitary sewers. The locations of these areas will largely depend on the geographical density of HSTSs, an area's proximity to the City's existing sanitary sewer network, and the potential cost/benefit to serve these locations. Once identified, the City will prioritize each area for future study to determine the feasibility for sewer extension. Prioritization criteria may include, but is not limited to the following:

- Functionality,
- Density,
- Discharge location,
- Surface water proximity,
- Lot size,
- Potential impact to water treatment intakes,
- Ground water pollution potential, and
- Land use.

Based on these assessments and available funding, the City will design and construct mainline sanitary sewer extension projects under its capital improvement program where viable.

Incentives to Promote Connection to the Sanitary Sewer System
Historically, sanitary sewers were extended through the development of sewer assessment projects whereby homeowners were assessed fees to cover the cost of constructing new sanitary sewers that serve their area. Homeowners had the option of paying assessment fees upfront or over a 10-year period.

Construction fees, along with applicable sewer tap fees, abandonment of HSTSs and lateral installations are costly and, at times, challenging for property owners residing in low-income areas to afford. To assist with the abandonment of HSTSs, the City developed the Septic Tank Elimination Loan Program (STEP). Under STEP, the City pays for sewer extension projects in higher density HSTS areas through its Capital Improvement Program. Reimbursement for costs to construction the sewer, associated capacity fees, and lateral installation costs are deferred until the property is sold or otherwise transferred in the future. Such an arrangement reduces the financial burden on property owners and allows the City to provide centralized sewer to unserved areas more expeditiously. More information about the City's STEP program is provided in **Appendix D**.

Measurable Goals
The following measurable goals have been established for this BMP:

- Maintain list of HSTS addresses that can be feasibly connected to the City's central sanitary sewer system through service lateral installation.
- Inspect all known, off-lot discharging HSTSs annually.
- Track properties that connect to the City's central sanitary sewer system.
- Track properties that participate in the City's STEP program.
- Develop process to identify and prioritize for future sanitary sewer extension areas.

Evaluation Methods
In conjunction with the Annual Report, the City will compile data documenting the numbers of addresses identified as being feasible for connection to central sewers, HSTSs inspected, and properties served by HSTSs that connect to the sanitary sewer. The City will also provide updates on its STEP and sewer extension programs in the Annual Report. The presentation and discussion of this information in the Annual Report will be considered achievement of the measurable goals.

Responsible Department: Sewer Systems Engineering Section, Columbus Public Health, Stormwater and Regulatory Management Section

3.4 Illicit Discharge Training, Tracking and Elimination Program

Required SWMP Component

The Permittee must train municipal employee maintenance crews on how to identify, report, and respond to illicit discharges observed in the field. The City must also maintain a database for tracking, inspecting, and controlling illicit discharges, including sanitary sewage from illicit connections or infiltration, into the MS4. The database must include the following information: date of initial complaint and observation, source and type of discharge, notice of violation date, and verification of elimination.

The City must also identify its procedure to eliminate illicit discharges that are detected. The procedures must have the following components:

1) The City must educate its employees conducting maintenance activities on the procedures for identification and reporting of illicit connections and improper disposal activities.

2) The City must take appropriate enforcement procedures and/or actions under its illicit discharge program (ordinance or other regulatory mechanism) upon the discovery of an illicit discharge.

3) The City must require the elimination of illicit connections as expeditiously as possible and the immediate cessation of improper disposal practices upon identification of responsible parties.

4) The City must inform public employees, businesses, and the general public of the hazards associated with illicit discharges.

The following BMPs are being implemented to meet these permit requirements.

3.4.1 BMP ID6 – Illicit Discharge Tracking and Elimination

Rationale Statement

City maintenance crews drive through and perform work all over the city on a daily basis. Field crews trained on the identification of illicit discharges and on proper reporting procedures greatly increase the number of opportunities for illicit discharges to be detected. A tracking database for inspection and control of all illicit discharges including discharges of sanitary sewage from illicit connections or infiltration into the MS4 will help City staff to ensure that investigation, enforcement, and elimination procedures are followed for all reported and investigated illicit discharges.

Federal regulations require municipalities to establish a program to investigate and eliminate illicit discharges to storm sewer systems. Establishing written procedures for how the City will identify, fix, and prevent illicit discharges to the MS4 will enable staff to better respond to illicit

discharges. The measurable goals were selected to track implementation of this BMP over time in terms of the annual application, training, database maintenance, and review of the enforcement procedures.

Description and Implementation Approach

City staff receives stormwater awareness training upon hire and annually at locations where Stormwater Pollution Prevention Plans are developed. The training offered upon hire provides information on how to identify illicit discharges and who should be contacted when an illicit discharge is discovered. See Section 7 for more information about the City's employee stormwater training program.

The City uses an MS Access database to track stormwater investigations of spills, leaks, dumping, complaints, and other incidents or requests**.** The database includes required fields for date of initial complaint and observation, source and type of discharge, notice of violation date, and verification of elimination, plus fields for the stormwater investigator name, complaint/report source, location, manhole structure number, receiving water, whether contact was made with receiving water, responsible party contact information, the product and amount of discharge, and witnesses.

When the source of an illicit discharge is identified, elimination is necessary and is the logical next step in the investigation/elimination process. The enforcement action tools of the City's Illicit Discharge Elimination Program will be used to ensure a consistent response and compliance with City code.

Appendix E presents the Enforcement Action Schedule, used by the City's Stormwater Program to achieve compliance with city stormwater regulations. **Exhibit 3-4** presents a sample Notice of Violation with Administrative Fine. As shown in Appendix E, responsible parties are responsible for elimination of discharges and any associated clean-up of the MS4. By City Code 1145, the City has the authority to perform the clean-up and assess the responsible party for clean-up costs.

Mandatory suspect source monitoring may be required if a facility appears to be the source of pollution and is unable to disconnect the pollution source. Regardless of whether the potentially responsible party realizes that it is operating in violation of a regulation, the City will pursue its normal enforcement action process and issue a Notice of Violation to implement a corrective action.

Measurable Goals

The following measurable goals have been established for this BMP:

- Train upon hire, all new employees on the identification of illicit discharges and proper reporting procedures to the City's IDDE section
- Enter results of illicit discharge investigations into tracking database for each illicit discharge investigated.
- Close out/document elimination of illicit discharges in tracking database.

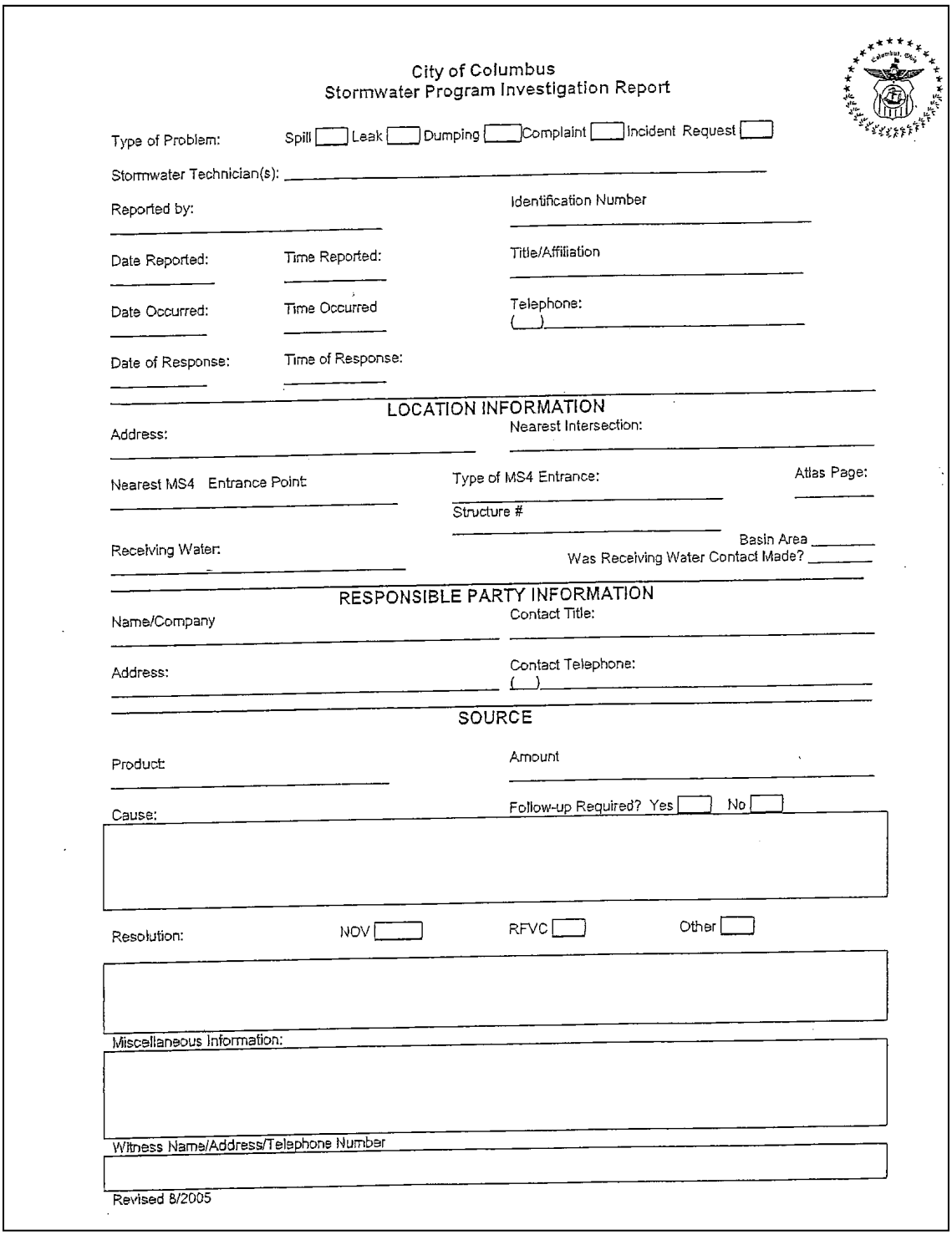
- Review annually for update an enforcement action schedule that documents enforcement actions the City will take to eliminate illicit discharges into the City's MS4.

- Apply appropriate enforcement actions to eliminate each identified illicit discharge.

Evaluation Methods
In the Annual Report the City will present a summary from the illicit discharge tracking database, data documenting enforcement procedures taken during the previous permit year, and employee training. Presentation and discussion of this information will be considered achievement of the measurable goals.

Responsible Department: Stormwater and Regulatory Management Section

Exhibit 3-1. Illicit Discharge Investigation Form



City of Columbus
Stormwater Program Investigation Report

Type of Problem: Spill ☐ Leak ☐ Dumping ☐ Complaint ☐ Incident Request ☐

Stormwater Technician(s): _____

Reported by: _____ Identification Number _____

Date Reported: _____ Time Reported: _____ Title/Affiliation _____

Date Occurred: _____ Time Occurred _____ Telephone: (___) _____

Date of Response: _____ Time of Response: _____

LOCATION INFORMATION

Address: _____ Nearest Intersection: _____

Nearest MS4 Entrance Point: _____ Type of MS4 Entrance: _____ Atlas Page: _____

Structure # _____

Receiving Water: _____ Basin Area _____

Was Receiving Water Contact Made? _____

RESPONSIBLE PARTY INFORMATION

Name/Company _____ Contact Title: _____

Address: _____ Contact Telephone: (___) _____

SOURCE

Product: _____ Amount _____

Cause: _____ Follow-up Required? Yes ☐ No ☐

Resolution: NOV ☐ RFVC ☐ Other ☐

Miscellaneous Information:

Witness Name/Address/Telephone Number

Revised 8/2005

Exhibit 3-1. Illicit Discharge Investigation Form (continued)

INVESTIGATION QUESTIONS:

IN THE FIELD
Is the discharge location within Columbus? Yes / No
Is the curb line, sewer or channel that the discharge enters owned by Columbus? Yes / No
Did product reach the MS4? Yes / No
Does spill and storm sewer need to be cleaned by a professional company? Yes/No
Combined or storm sewer area? Combined / Storm
Does the discharge go to a combined sewer downstream? Yes / No
Powerwashing? Yes / No Using hot water? Yes / No Detergents? Yes/No
Did you use any containment? Yes/No If Yes, What was used? _____
City personnel onsite_____
Time onsite_____

Did you help clean up the spill? Yes / No List time and equipment used:
_____
Did you talk to the responsible party? Yes / No Or someone else? _____
Did someone admit fault? Yes / No If yes, who did? _____
Name and manufacturer of any discharged substance? _____
E-Mail Address_____
Need to collect Lab Samples? Yes/No
Did you distribute educational materials? Yes/No- Information_____
Check outfall? Yes/No
If yes, notify Ohio EPA? Yes/No
Check for pictures for the report:
curb or inlet_____ MS4 Entrance _____ Discharged material _____ Violation in progress_____
Any cleanup effort _____ Outfall or stream _____

IN THE OFFICE: PREPARING THE REPORT
Are pictures adequately labeled?
ArcReader map of the discharge, and sewer network and corporate boundary?
Time/date of completed cleanup?
Parcel Identification number for the discharge address
Information passed on to other agencies/authorities?
Any follow-up with witnesses or the responsible party?
Prior Violations?
Product MSDS sheets?

Exhibit 3-2. Illicit Connection and Illicit Discharge Tracking Form

City of Columbus SITE NUMBER: _____
I.C.I.D. TRACKING FORM STRUCTURE NUMBER: _____
DOSD/STORMWATER DIVISION

INVESTIGATION DATE: _____
ADDRESS: _____
INVESTIGATORS: _____

TIME SINCE LAST PERCIPITATION:
< 48 HOURS _____ 48-72 HOURS _____ >72 HOURS _____
TYPE SEWER: STORM _____ COMBINED _____ SANITARY _____ CONVEYANCE _____
CONDITION: _____

PROBLEM FOUND AT SITE:

OBSERVATION: OUTFALL: _____ MANHOLE: _____

STANDING WATER IN MANHOLE YES_____ NO _____

COLOR OF WATER: COLORED _____ CLOUDY _____ OTHER _____

IF COLORED WATER DESCRIBE: _____

ODORS: NONE _____ SEWAGE _____ OILY _____ SOAP _____ OTHER _____

FLOATABLES: NONE _____ SEWAGE _____ OILY SHEEN _____ FOAM _____ OTHER _____

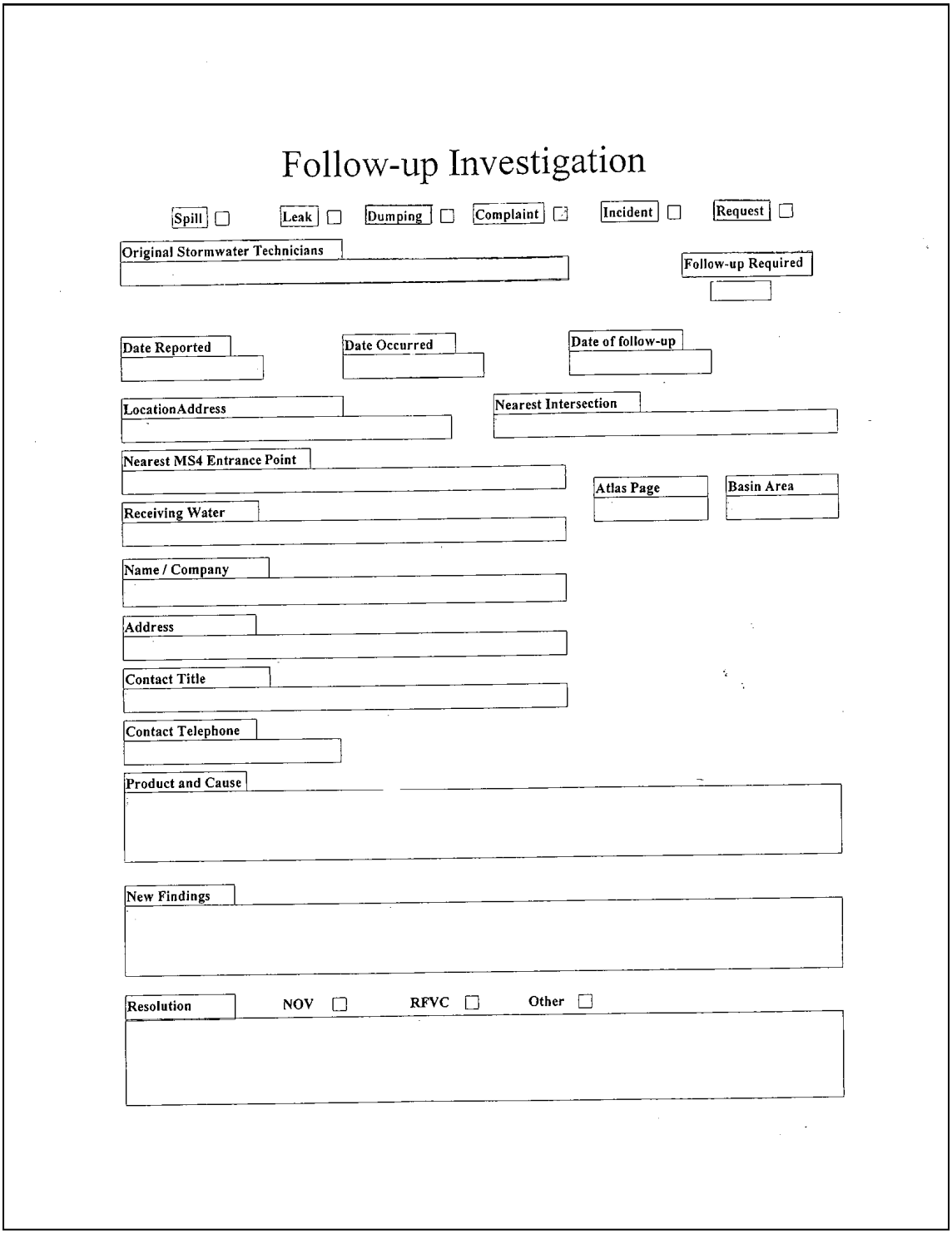
FIELD TESTING RESULTS P.P.M.

PH ___ AMMONIA ___DETERGENTS ___COPPER ____CHLORINE ____ PHENOLS _____

	STRUCTURE	RESULTS		STRUCTURE	RESULTS		STRUCTURE	RESULTS
1			6			11		
2			7			12		
3			8			13		
4			9			14		
5			10			15		

PROBLEM TRACKED TO WHICH LOCATION:

Exhibit 3-3. Follow-up Investigation Form



Follow-up Investigation

Spill ☐ Leak ☐ Dumping ☐ Complaint ☐ Incident ☐ Request ☐

Original Stormwater Technicians

Follow-up Required

Date Reported

Date Occurred

Date of follow-up

LocationAddress

Nearest Intersection

Nearest MS4 Entrance Point

Atlas Page

Basin Area

Receiving Water

Name / Company

Address

Contact Title

Contact Telephone

Product and Cause

New Findings

Resolution NOV ☐ RFVC ☐ Other ☐

Exhibit 3-4. Sample Notice of Violation with Administrative Fine

CERTIFIED MAIL

<<Date>>

<<Name>>
<<Address>>
City, State Zip Code

Re: Notice of Violation and Administrative Fine for Illicit Discharge

Dear <<Name>>:

A Notice of Violation (NOV) and an Administrative Fine is issued to <<Name>> for illicit discharge of process wastewater to the City of Columbus' Municipal Separate Storm Sewer System (MS4). On <<Date>>, Stormwater and Regulatory Management Section personnel witnessed the improper disposal of process wastewater by <<Name>> at <<Address>>. An employee was discharging used wash water, detergents and debris into a nearby catch basin. The disposal of process wastewater constitutes an illicit discharge to the MS4 and is a violation of City Code.

In no case should spilled fluids or any non-stormwater discharge be flushed into the separate storm sewer system or area storm drain inlets. Please be advised that non-stormwater discharge to the storm sewer system constitutes a violation of Columbus City Code 1145.85/1145.86 and Ohio Revised Code 6111. Failure to comply will result in escalated enforcement. Section 1145.111 of Columbus City Code provides for civil penalties of up to $25,000 for each violation for any person who negligently violates, or continues to negligently violate, any provision of Chapter 1145.

Section 1145.112 of Columbus City Code allows for criminal penalties or fines and/or imprisonment for each violation in Chapter 1145. Each day or portion thereof during which a violation occurs shall be considered a separate violation.

Pursuant to Columbus City Code 1145.100, <<Name>> is assessed an Administrative Fine of Seven Hundred and Fifty Dollars ($750.00). The Administrative Fine will be added to the <<Name>> water and sewer bill.

The assessment of an Administrative Fine may be appealed to the Director of the Department of Public Utilities within ten (10) days after receipt of this notice. The appeal may be filed by sending a notice of appeal to the Director of Public Utilities, 910 Dublin Road, Columbus, Ohio 43215-9060.

Within ten (10) days of receipt of this Notice of Violation you are required to submit a RAP to correct the violation. The RAP may be in the form of a letter and must be provided on your company's letterhead. The RAP must include the following information:

1. An explanation for the violation of City Code,

2. Acknowledgement that you will prevent future non-compliance with the provisions of Columbus City Codes Chapter 1145, and

3. Best Management Practice(s) (BMPs) you will immediately implement to prevent future discharge of process wastewater to the MS4.

Please send your explanation of violation and RAP by mail or hand deliver it to:

Department of Public Utilities
Division of Sewerage and Drainage
Stormwater & Regulatory Management Section
1250 Fairwood Avenue, Room 1051
Columbus, OH 43206-3372

If you believe any of the above listed violations have not occurred, please provide documentation as part of your explanation of violation. If you have any questions, please call <<Name>> at <<Phone Number>>.

Sincerely,

_____, Manager
Stormwater and Regulatory Management Section
Division of Sewerage and Drainage

Section 4
Construction Program (CP)

Required SWMP Component
The City must continue to implement and enforce its program to reduce pollutants in stormwater runoff from construction activities that disturb greater than or equal to one acre of land. Reduction of pollutants in stormwater discharges from construction activity disturbing less than one acre shall be included if that construction activity is part of a larger common plan of development that would disturb one or more acres. The program at a minimum should include the following:

1) The City must continue to enforce its erosion and sediment control regulations. The regulations should be at least as stringent as Ohio EPA's current construction stormwater general permits.

2) The City must review all construction stormwater control site plans for discharges associated with construction activity for all construction activities having a disturbed land area of one acre or more.

3) The City must continue to implement priorities and frequencies for construction site inspections. The City must furnish each inspector with a checklist of common construction site pollution sources and the management practices (both structural and nonstructural) normally used to control such sources.

4) The City must identify sanctions it will use to ensure implementation of construction stormwater control requirements and track instances of non-compliance.

5) After construction, the City must advise the owner that temporary control measures must be removed and a Notice of Termination must be filed with Ohio EPA.

6) The City must provide an annual review with staff that perform Storm Water Pollution Prevention Plan (SWPPP) review and inspections.

4.1 BMP CP1 – Construction Site Stormwater Pollution Prevention

Rationale Statement
The current version of the Stormwater Drainage Manual updated in 2012 and the Erosion and Sediment Pollution Control Regulation adopted on June 1, 1994 define the requirements for implementing pollutant reduction programs on construction sites in the City of Columbus. The regulation was adopted for the purpose of controlling pollution caused by land use changes associated with construction activities. Control of such pollution will promote and maintain the health, safety and general well being of all life and inhabitants within the City of Columbus. The measurable goals were selected to track implementation of this best management practice (BMP), including plan reviews, site inspections, and complaint investigations over time and the annual review and revision of regulations, if necessary.

Description and Implementation Approach
The Erosion and Sediment Pollution Control Regulation applies to all premises within the City of Columbus and other appropriate premises per the provisions defined in Columbus City Code, Chapter 1145.80, including land used or being developed for commercial, industrial, residential, recreational, public service or other non-farm purposes.

Although the existing regulation requires an erosion and sediment control (ESC) plan for development areas involving earth disturbances of two or more acres, the City's Stormwater Drainage Manual (SWDM) follows the OEPA regulations and requires a SWPPP for one acre or greater. The SWDM is a Director's Rule & Regulation authorized by City Code and is fully enforceable. The Erosion and Sediment Control Plan Review Process enforces the requirement for one or more acres. Requirements of the existing regulation(s) include:

1) Section 3 of the SWDM states that a SWPPP is required for all sites disturbing 1 acre or more.

2) For development areas involving earth disturbance of one (1) or more acre, including those development areas being a part of a larger common plan of development, an erosion and sediment control plan must be submitted and approved prior to any land-disturbing activities. The person proposing the land-disturbing activities shall develop and submit for approval a plan containing erosion and sediment pollution control practices so that compliance with other provisions of the regulation will be achieved during and after development.

3) For development areas involving land disturbance of less than one acre that are not part of a larger common plan of development, it is not necessary to submit an erosion and sediment control plan; however, the person proposing such land-disturbing activities must comply with all other provisions of the regulation.

Although the regulation provides requirements for structural and non-structural practices designed to control erosion and sediment, the SWDM identifies the Ohio Department of Natural Resources manual, Rainwater and Land Development, latest edition, as the principal reference for erosion and sediment control practices and standards. The SWDM also references additional requirements imposed by the Ohio EPA regarding information to be shown on the SWPPP, including pollution prevention practices such as material storage, trash controls, and concrete washout/disposal.

For more information, the complete SWDM and Erosion and Sediment Pollution Control Regulation are available online at the Department of Public Utilities' website.

Measurable Goal
The following measurable goal has been established for this BMP:

- Annually review, and revise as needed, the Stormwater Drainage Manual and Erosion and Sediment Pollution Control Regulation.

Evaluation Methods
In conjunction with the Annual Report and following revisions to Ohio EPA's construction general permit, SRMS will review the Stormwater Drainage Manual and the Erosion and Sediment Pollution Control Regulation and, if necessary, recommend revisions to comply with EPA permit regulations. Discussion of this review in the Annual Report will be considered achievement of the measurable goal.

Responsible Department: Stormwater and Regulatory Management Section

4.2 BMP CP2 – Construction Site Stormwater Pollution Prevention Plan Review and Approval Process

Rationale Statement
To enforce the City's Codes, Rules and Regulation the City of Columbus implements a SWPPP review and approval process. The measurable goal was selected to track implementation of the plan review process.

Description and Implementation Approach
The City reviews the following plans for compliance with construction site stormwater requirements:

1) All new stormwater plans (public, private and Capital Improvement Project work) submitted to the City of Columbus, including all drawing formats;

2) Sanitary CIP work if the work involves a stream crossing(s);

3) Floodplain fill plans from the Department of Building and Zoning Services (DBZS) and Mass Excavation and Grading Plans on construction sites that do not need or have not completed a stormwater drainage plan. (Ohio EPA construction permit and the City's SWDM require preparation of a full Stormwater Pollution Prevention Plan, including post-construction controls, before any earth disturbance occurs).

While plans are under review, comments are made and submitted to the engineer to be incorporated into the plan. The plan is then resubmitted by the engineer for signature. Once the reviewer confirms the comments have been addressed, the plan is signed. This entire process, for both CC plans and Drawer E plans, has an established standard of 25 working days. The DBZS oversees this process. **Exhibits 4-1** and **4-2** present samples of the plan review tracking spreadsheets.

Site disturbances under one acre and site disturbances over one acre are handled differently as discussed below.

Site Disturbances Under One Acre – Stormwater drainage plans with site disturbance *under* one acre are required to list erosion and sediment control as a lump-sum pay item in the stormwater plans' quantities list. These plans must also provide the following general note:

> EROSION AND SEDIMENT CONTROL. Land Disturbance areas less than one acre and not part of a larger common plan of development are not required to submit to the City of Columbus a full scale erosion and sediment control plan for approval. However, the proposed land disturbing activities must comply with all of the provisions of the Division of Sewerage and Drainage Erosion and Sediment Control regulation. All land disturbing activities shall be subject to inspection and site investigation by the City of Columbus to determine compliance with City standards and regulations. Failure to comply with these regulations may subject the site to enforcement action by the City. Questions regarding Erosion and Sediment Control may be referred to the Stormwater and Regulatory Management Office at 645-6311.
>
> On-site Contact:
> Phone:
> FAX:
> E-mail:

Site is tributary to: _____ (nearest named watercourse)

Site Disturbances Over One Acre – Stormwater drainage plans with site disturbance *over* one acre are required to provide a full Stormwater Pollution Prevention Plan (SWPPP) as part of the submitted drainage plan. As it relates to construction activity, the City generally follows the guidelines detailed in the Ohio EPA's current version of the Storm Water Pollution Prevention Plan (SWPPP) Checklist for Construction Activities. For detailed requirements of the SWPPP, this document is included in **Appendix F**. The checklist indicates that the SWPPP must include the following information:

1) Site description

2) Site map

3) Erosion and sediment controls (including itemized quantities, plan view with BMP locations detailed, ESC legend, site specific BMP details, and basin/riser calculations)

4) Post-construction stormwater management facility details.
   (See Section 6 for plan review and inspection of post-construction BMPs; Post-construction BMPs are not reviewed or inspected as part of the Construction Erosion and Sediment Control Program).

5) Surface water protection

6) Non-sediment pollutant controls

7) Inspection requirements

The Notice of Intent number is to be included on all construction drawings.

Measurable Goal
The following measurable goal has been established for this BMP:

- The City will review and comment on all submitted construction site pollution prevention plans.

Evaluation Methods
In conjunction with the Annual Report the City will review tracking data documenting all plans submitted, reviewed, and approved during the previous permit year. Verification that all submitted plans were reviewed will be considered achievement of the measurable goal.

Responsible Department: Stormwater and Regulatory Management Section, Department of Building and Zoning Services

4.3 BMP CP3 – Construction Site Inspection

Rationale Statement
To enforce the City's Erosion and Sediment Pollution Control Regulation (Section 4.1) the City of Columbus currently has construction site inspection procedures in place. To provide consistent and effective inspections, these procedures include priorities and frequencies for construction site inspections and a checklist for inspectors of common construction site pollution sources and the management practices (both structural and nonstructural) normally used to control such sources. The measurable goals were selected to track implementation and training for this BMP over time and evaluate BMP effectiveness in terms of the percentage of construction sites in compliance.

Description and Implementation Approach
Inspection Priorities: The City has established priorities for construction site inspection based upon the compliance history, complaints, location, and size of the site. The following categories of construction sites are listed in descending order of priority:

1) Sites in non-compliance or already in the Notice of Violation (NOV) process,

2) Complaints (respond as soon as possible and within two business days),

3) Construction on rivers or creeks,

4) High acreage (+ 10 acres),

5) New construction (particularly prior to basin/riser installations),

6) Basin required sites (+ 5 acres),

7) Sites or Contractors with a poor compliance history,

8) Sites over one acre of disturbance, and

9) Sites under one acre of disturbance.

Inspection Frequency: The routine inspection frequency is projected to be four weeks, or at least once within the first four weeks of a project. On non-compliant sites, inspection recurs until compliance is achieved.

Site Reporting: Each time a construction site is inspected, a Stormwater Pollution Prevention Plan Construction Inspection Report must be filled out. **Exhibit 4-3** presents a sample blank report. The City includes a written statement reminding the owner to file a Notice of Termination (NOT) for permit coverage with Ohio EPA and a blank NOT form in the final Construction Inspection Report for each project.

Site Tracking: The City uses a series of spreadsheets to track/prioritize construction inspections and document enforcement actions taken against operators of non-compliant construction sites. See Section 4.4 for more information on site tracking and enforcement.

Response and Investigation Procedures: Sources of information regarding erosion and sediment problems include, but are not limited to: the "645-STREAM" hotline (see Section 3), Ohio EPA, Franklin County, Suburb/Township personnel, Watercourse Protection Groups, Greenways, the engineering/educational communities, various other City agencies and individual citizens. When a problem is reported, the City will respond as soon as possible (usually the same day or within two business days). The following response and investigation procedures are used by SRMS personnel:

1) Document the complaint or concern.

2) Determine the need to investigate (if the project is in City MS4) or forward it to the responsible entity.

3) Advise the SRMS Program Manager about complaints of a serious or sensitive nature.

4) If the project is located in the City MS4, proceed with site information search (i.e., map work, aerials, active log check, existing Construction Inspection Reports (CIRs) or photo files).

5) Determine and assign the inspector that will investigate the situation.

6) Discuss and provide to the inspector any relevant material gathered from site information search from above.

7) Inspector investigates, photographs, and reports findings.

8) Resolutions or corrective measures are determined and addressed to involved parties.

9) Follow-up inspection recurs until compliance is achieved.

Notification: If a Notice of Violation is issued (see Section 4.4 for Enforcement Action Schedule), external agencies/contacts are also notified. The Notice of Violation (NOV) list includes, but is not limited to:

1) Site Owner (site specific),

2) City Attorney, Public Utilities,

3) DOSD Administrator,

4) DOSD Customer Service – Billing,

5) Ohio EPA, and

6) Project Engineer (site specific).

Measurable Goal
The following measurable goals have been established for this BMP:

- Review annually for update, written procedures that describe how construction inspections are prioritized and performed.

- Train inspectors annually on established procedures for construction site inspection.

- Perform an inspection at each construction site at least once every four weeks on average.

- Perform a follow-up inspection within ten (10) days from the date a Construction Inspection Report or formal Notice of Violation is issued.

- Maintain at least 85 percent of construction sites in compliance with the City's Erosion and Sediment Pollution Control Regulations.

Evaluation Methods
In each Annual Report the City will present data tracking the implementation of construction site inspections and inspector training. Presentation of information with respect to frequencies of routine construction inspections, inspector training, and percentage of construction sites in compliance with the City's Erosion and Sediment Pollution Control Regulations will be considered achievement of the measurable goals.

Responsible Department: Stormwater and Regulatory Management Section

4.4 BMP CP4 – Tracking and Enforcement

Rationale Statement

A tracking database for inspection of construction sites will help City staff to ensure that investigation, enforcement, and corrective actions are followed for all site inspections that are performed. The measurable goals were selected to track implementation of this BMP over time in terms of regular update and maintenance of the database.

To ensure that the requirements stipulated in the City's Erosion and Sediment Pollution Control Regulation are met, an Enforcement Action Schedule is used by the Stormwater and Regulatory Management Section (SRMS) to guide enforcement decisions. The measurable goals were also selected to track enforcement actions taken against site operators of non-compliant construction sites**.**

Description and Implementation Approach

The City uses a series of spreadsheets to track and prioritize construction sites. These spreadsheets include information such as the plan title and number, the engineering company used for the project, the watershed in which the project is located, disturbed acreage, contact name and phone number, as well as the (good, fair, or poor) rating for each construction site. **Appendix G** provides a sample spreadsheet.

Appendix E presents the Enforcement Action Schedule, including a list of various ESC violations and their corresponding enforcement responses. Exhibit 4-4 of Section 4 provides a sample Notice of Violation with Administrative Fine. The City has not issued a Stop Work Order to date and therefore does not have a sample to provide for this SWMP.

Measurable Goals

The following measurable goals have been established for this BMP:

- Update site tracking spreadsheet to include new and active construction sites and add inspection dates, recommended actions, priority, and compliance history for each inspection.
- Review annually for update an enforcement action schedule that documents enforcement actions the City will take to ensure construction site compliance with the City's Erosion and Sediment Control Regulation.
- Apply appropriate enforcement actions to achieve compliance with the City's Erosion and Sediment Pollution Control Regulation.

Evaluation Methods
In each Annual Report, the City will present data documenting population of the tracking spreadsheets, updates to the enforcement action schedule (if needed), and enforcement procedures taken during the previous permit year. Presentation and discussion of this information in the Annual Report will be considered achievement of the measurable goals.

Responsible Department: Stormwater and Regulatory Management Section

Exhibit 4-1. Sample ESC Plan Review Tracking Spreadsheet

SEDIMENT AND EROSION CONTROL PLANS REVIEWED

#	C	Plan Title	Plan #	ENG. CO.	WS	WQ	Contact	PHONE #	DATE	IN	PM	DIST.
4149												
4150												
4151												
4152												
4153												
4154												
4155												
4156												
4157												
4158												
4159												
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4182												
4183												

STORMWATER MANAGEMENT -- PAUL PARSONS

S:\PRParsons\prp\REVIEW1 -- As of 4/19/2013

Exhibit 4-2. Sample ESC Plan Review Tracking Spreadsheet (Sites Under 1 Acre)

STORMWATER PLANS REVIEWED
(UNDER 1 ACRE AFTER 3-10-03)

NO.	C	CC- NO.	NAME OF PROJECT	ACRES	PM	IN	WS
1416							
1417							
1418							
1419							
1420							
1421							
1422							
1423							
1424							
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S:\PRParsons\prp\Plans review under one acre July 08
Updated: 4/22/2013

Exhibit 4-3. Stormwater Pollution Prevention Plan Construction Inspection Report

City of Columbus, Ohio
Division of Sewerage and Drainage
Stormwater and Regulatory Management Section

Stormwater Pollution Prevention Plan (SWP3)
Construction Inspection Report (CIR)

Inspector: _____ Date: _____ Weather: _____ Time: _____

Project Name: _____ ID#: _____ Plan Number: _____

Site Contact: _____ Phone: _____ Fax: _____

E-Mail: _____ Engineer: _____

Owner/Address: _____

Acreage Disturbed: _____ Receiving Water/System: _____ City PM: _____

Inspection: Pre-Con: ☐ Routine: ☐ Follow-Up: ☐ Complaint: ☐ Photos: ☐ OEPA NOI: *Yes* ☐ *No* ☐

Items are marked as: **1. Acceptable** **2. Not Acceptable** **3. Not Inspected** **4. Not Applicable** **5. Not Complete** **6. Need Repair/Maintenance**

*(If an item is **not acceptable**, give an explanation in the comments section below:)*

1.		ESC Plan – Log Book On-Site	11.		Permanent Seeding/Mulching
2.		Storm Sewers Installed	12.		Geo-Textiles
3.		Stabilized Construction Entrance(s)	13.		Paint-Concrete Washout Areas
4.		Silt Fence/Straw Wattles	14.		Waste Management
5.		Inlet Protection	15.		Staging Areas for Materials
6.		Diversion Swales	16.		Vehicle Fueling/Maintenance Areas
7.		Sediment Pond(s), Basin(s) or Trap(s)	17.		Spill Prevention Plan
8.		Riser(s) or Outlet Pipe	18.		Post Construction WQ BMP's
9.		Temporary Seeding/Mulching	19.		Other
10.		Clean Streets	20.		

COMMENTS:

Overall Site Rating:

Good ☐ *(No work required)* **Fair** ☐ *(Some work required)* **Poor** ☐ *(Major work required)*

☐ **THIS SITE IS IN NON-COMPLIANCE – This is a Request for Voluntary Compliance**

Corrective measures are to be completed by: _____ **Follow-up inspection:** _____

Upon completion of the follow-up inspection, the site was found to be:

- ☐ In compliance
- ☐ In continued non-compliance, call ASAP.
- ☐ The owner is being forwarded a **NOTICE OF VIOLATION** with applicable administrative fines.

Copy Received By/Date: _____ *Additional Pages Y/N:* *Yes* ☐ *No* ☐

Section 5
Post Construction Program (PC)

The City maintains a program to address stormwater runoff from new development and redevelopment projects that disturb greater than or equal to one acre. The program's best management practices (BMPs) include regulations, enforcement, guidance documents, and BMP tracking and inspection procedures. The following sections detail the BMPs selected to address the required regulations and procedures identified by the Permit.

5.1 Regulations

Required SWMP Component

The City must develop and implement strategies which include a combination of structural and/or nonstructural BMPs appropriate for the City. The City must use an ordinance or other regulatory mechanism to address post-construction runoff from new development and redevelopment. The regulatory mechanism must be revised to be as stringent as the Ohio EPA NPDES Construction Storm Water general permits.

5.1.1 BMP PC1 – Post-Construction BMP Requirements

Rationale Statement

The City developed and implemented the City of Columbus Stormwater Drainage Manual (SWDM) as the City's primary regulatory mechanism for regulating post-construction runoff from new development and redevelopment. The SWDM was adopted as a regulation by the Director of Public Utilities pursuant to the authority provided in Columbus City Code 1145.11, 1145.81 and 1149.04. Preparation of the SWDM was a collaborative and consensus building process involving a wide range of stakeholders interested in effective stormwater management. The effort was led by the City's Stormwater Management Section and promoted by the Director of Public Utilities.

Preparation of the SWDM was a collaborative and consensus building process involving a wide range of stakeholders interested in effective stormwater management. The effort was led by the City's Stormwater Management Section and promoted by the Director of Public Utilities.

The measurable goals were selected to track implementation over time of the SWDM's annual review and revision, if necessary, and tracking the effectiveness of this BMP in terms of new developments/redevelopments implementing stormwater BMPs as required by the SWDM.

Description and Implementation Approach

The purpose of the SWDM is to protect existing natural stormwater resources, convey and control stormwater in a safe and responsible manner, and meet water quality goals. The SWDM incorporates the post-construction stormwater requirements in Ohio EPA's general NPDES permit for stormwater discharges from construction sites by reference, and includes structural BMPs, non-structural BMPs, and BMP maintenance.

Structural BMPs include:

- Extended Dry and Wet Detention Basins,
- Stormwater Wetlands,
- Media Filters,
- Dry Extended Detention Swales,
- Vegetated Swales,
- Filter Strips,
- Permeable/Porous Pavement
- Green Roofs
- Rainwater Harvesting, and
- Applicant Proposed BMPs (performance criteria).

Non-Structural BMPs include:

- Stream Preservation – Establishment of Stream Corridor Protection Zone,
- Compensatory floodplain fill requirements,
- Wetland protection requirements within Stream Corridor Protection Zones,
- Provisions to allow construction impacts within Stream Corridor Protection Zone to mitigate for lost isolated onsite wetlands, and
- Requirements for Commercial Activity Areas.

The goal of the City is to be responsive to changes in stormwater policy and design brought forth by the natural progression of the industry. As such, the SWDM will be updated as necessary to reflect accepted standard practice in stormwater management.

More information regarding applicability and requirements is available by reviewing the current version of the City of Columbus SWDM, under separate cover from this document. The SWDM is available online at the Department of Public Utilities' website.

Measurable Goals
The following measurable goal has been established for this BMP:

- Review SWDM when necessary, based upon comments and regulatory changes received during the year. Revise, if necessary, to reflect accepted standard practices in stormwater management and changes to Ohio EPA's NPDES Construction Storm Water general permits.

Evaluation Methods
In conjunction with the Annual Report the City will review the SWDM. If necessary, the City will recommend modifications to reflect accepted standard practices in stormwater management. Discussion of SWDM adoption, review, and revision in each Annual Report will be considered achievement of the measurable goals.

Responsible Department: Stormwater and Regulatory Management Section

5.2 Stormwater Pollution Prevention Plan Reviews

Required SWMP Component
The City must conduct Stormwater Pollution Prevention Plan (SWPPP) reviews that specifically address how projects satisfy the post-construction requirements of the current applicable Ohio EPA NPDES Construction Stormwater general permit.

5.2.1 BMP PC2 – Stormwater Post-Construction Plan Review and Approval Process

Rationale Statement
The purpose of this BMP is to incorporate post-construction stormwater runoff quality control BMPs into the construction plan approval process for new development and redevelopment. The measurable goals were selected to track the effectiveness of this BMP in terms of incorporating appropriate post-construction runoff quality control BMPs in new development/redevelopment.

Description and Implementation Approach
The SWDM details the following processes that must be completed for new or redevelopment projects in which stormwater infrastructure is constructed or altered.

1) CC and Drawer E type construction drawings are required for new or redevelopment projects (including transportation projects) that construct new or alter existing stormwater infrastructure.

2) A Stormwater Management Report is required to accompany the draft construction drawings and includes:

    a. Master Drainage Plans (if development is 5 acres or greater),

    b. Calculations,

    c. Stormwater Quality BMP Maintenance Plans,

d. Easements,

e. Subsurface Investigations, and

f. Non-City Submittals/Permits.

3) Stormwater drainage plans with site disturbance over one acre are required to provide a full Stormwater Pollution Prevention Plan (SWPPP) as part of the Stormwater Management Report.

4) Plans and Stormwater Management Reports are submitted to the Department of Building and Zoning Services (DBZS) by the Applicant for review and approval.

5) Plans are routed for review to other City departments including the DOSD, Private Development Section.

6) Plans are signed by the Administrator of the Division of Sewerage and Drainage once all comments have been addressed.

Measurable Goal
The following measurable goal has been established for this BMP:

- Review construction plans and Stormwater Management Reports for all new development or redevelopment projects to ensure implementation of post-construction stormwater BMPs as required by the SWDM.

Evaluation Methods
SRMS will present tracking data in each Annual Report documenting that all new development or redevelopment plans were reviewed during the previous permit year. Review and implementation of BMPs as required by the SWDM will be considered achievement of the measurable goal.

Responsible Department: Stormwater and Regulatory Management Section and Private Development Section.

5.3 Long Term Operation and Maintenance of BMPs

Required SWMP Component
The City must require adequate long-term operation and maintenance of BMPs and require that property owners or operators provide verification of maintenance. The City must maintain an inventory of all post-construction control measures and conduct inspections to ensure that control measures are installed correctly, operating as intended, and are being maintained according to applicable maintenance requirements..

5.3.1 BMP PC3 – BMP Maintenance Requirements and Inspection

Rationale Statement

To ensure adequate long term operation and maintenance of BMPs, the City has adopted the following procedures to be used during BMP maintenance inspection, tracking, and reporting. The measurable goals were selected to track implementation of this BMP in terms of inventory maintenance, owner education, and BMP inspection.

Description and Implementation Approach

The City's SWDM, which includes requirements for BMP inspections and maintenance, serves as the primary regulatory mechanism for ensuring appropriate long-term operation and maintenance of post-construction BMPs. The City will maintain detention basins and stormwater wetlands that serve single-family residential sites; a Homeowners Association will maintain all other types of BMPs that serve single-family residential properties. Property owners are responsible for maintaining all BMPs on non-residential sites. BMP maintenance plans, including inspection forms, are submitted with construction drawings and are provided to the property owner by the City once construction is completed. Property owners are then required to perform periodic inspections at a frequency stipulated in the approved facility maintenance plan and submit inspection/maintenance reports annually to the DOSD.

The following list details the procedures that will be used by the City in BMP maintenance inspection, tracking, reporting, and follow-up.

1) Stormwater design reports and construction plans are reviewed and approved by the City (see Section 5.2.1).

2) The Stormwater and Regulatory Management Section (SRMS) reviews approved plans and identifies post-construction BMPs that must be tracked and maintained.

3) SRMS enters the following information into a database for future tracking:

Parcel ID	Construction year	Description of each post construction control measure
Development name	Contact name	Maintenance responsibility
Site location	Phone number	Short description of the maintenance requirements
Drawing number	Contact mailing address	BMP type
Drainage Area	Inspection notes	Development type
Inspection date	Project approval date	Coordinates for each BMP facility

4) The SRMS coordinates with the Construction Inspection Division to determine when post-construction BMPs are accepted as functional.

5) SRMS meets with the BMP owner to educate them on the need for stormwater quality management, BMP inspection, maintenance, and reporting responsibilities, review the BMP inspection forms, and review the function of onsite BMPs the owner is responsible for maintaining. Operation and Maintenance Inspection Reports for the following BMPs are provided in the City's SWDM:

   a. Stormwater basins and wetlands
   b. Media filters
   c. Vegetated swales, filter strips, and level spreaders
   d. Pervious pavement systems
   e. Proprietary water quality devices
   f. Pervious pavement

6) Annual inspection, maintenance, and reporting notices will be sent to BMP owners reminding them of their inspection and reporting responsibilities.

7) SRMS will track the BMP maintenance reports received in the BMP database. Section 5.3.2 details enforcement actions for failure to submit annual inspection/maintenance reports.

8) SRMS conducts random inspections on post-construction BMPs to verify accuracy of maintenance reports.

Measurable Goals
The following measurable goals have been established for this BMP:

- Contact and advise the BMP owner of maintenance and reporting responsibilities for each new BMP added to the City's BMP inventory.

- Inspect each post-construction water quality BMP in the City's BMP inventory at least once during each permit cycle.

Evaluation Methods
In the Annual Report, the City will present updated information on the number of BMPs added to the City's inventory and the number of BMPs inspected by City staff. Presentation of this information will be considered achievement of the measurable goals.

Responsible Department: Stormwater and Regulatory Management Section

5.3.2 BMP PC4 – BMP Maintenance Tracking and Enforcement

Rationale Statement

To ensure that the inspection, maintenance, and reporting requirements stipulated in the City's Stormwater Drainage Manual, with respect to post-construction best management practices (BMPs), are met, the City first educates BMP owners on their inspection, reporting, and maintenance responsibilities. If it is determined the owner is not maintaining post-construction BMPs after initial consultation, the City responds in accordance with the Enforcement Action Schedule that has been prepared by the Stormwater and Regulatory Management Section (SRMS). The measurable goals were selected to track implementation of this BMP in terms of the regular updating and maintenance of the City's tracking database and of enforcement actions taken to ensure BMP maintenance compliance.

Description and Implementation Approach

Appendix E presents the City's Enforcement Action Schedule for BMP maintenance and program violations. The two main types of violations are failure to submit annual inspection/maintenance reports and failure to maintain post-construction BMPs. The protocols within the Enforcement Action Schedule are consistent with the limits of available enforcement measures to the SRMS provided in Columbus City Code 1145. The Enforcement Response Guide developed by the City's Pretreatment Section was also used to develop this Schedule. Selected content and formatting from the Pretreatment Section's Enforcement Response Guide was referenced to take advantage of established enforcement protocols and to promote consistency of enforcement actions related to the City's sewer use regulations. This Schedule is intended to serve these main purposes:

- To describe enforcement responses that may be appropriate in relation to the nature and severity of the violation and the degree of noncompliance,
- To provide a direction for uniform application of enforcement responses to comparable levels of violations, and
- To review the appropriateness of responses.

The Stormwater Management Section will use the Schedule to determine appropriate enforcement in situations of noncompliance and level enforcement action against violators in a fair and unbiased manner. The Schedule clearly informs industrial users, contractors, businesses, and residents of the penalties associated with noncompliance.

The Schedule sets forth enforcement responses that vary according to the degree of non-compliance from the stormwater regulation that is violated. Enforcement responses selected for a violation or combination of violations will be based on the duration of the violation, previous enforcement actions taken, and effectiveness as a deterrent during prior violations. The City may issue Notices of Notice of Violations (NOVs) with inspection reports when a BMP owner is found in non-compliance with the City's BMP maintenance regulations. Refer to Exhibit 4-4 of Section 4 for a sample Notice of Violation with Administrative Fine.

The City has the authority to file civil and criminal actions against users who violate regulations designed to prohibit the discharge of pollutants to the City's separate storm sewer system. Civil suits are filed to seek injunctive relief, compliance, civil penalties, and/or damages against alleged violators of applicable stormwater regulations. Civil litigation is an appropriate enforcement response to address violations or circumstances where:

- Injunctive relief is required to stop discharges that threaten human health or the environment.
- Other efforts have not produced compliance and action necessary to enforce program requirements and obtain appropriate civil penalties.
- Compensation is sought when a violator has damaged the stormwater collection system or the City is found to be in violation of its NPDES permit as a result of a violator's actions.

When the Department requests the City Attorney to pursue a civil enforcement action, a referral package will be prepared that includes, but is not limited to, the following information:

- BMP maintenance reports
- CC Drawings
- Stormwater Management Reports for the development
- BMP inspection forms
- Stormwater monitoring data (if available)
- City inspection reports
- Listings and copies of all other enforcement actions
- List of prior fine assessments

In instances where it appears that a person recklessly violates or continues to recklessly violate a stormwater related provision within Columbus City Code Chapter 1145, the SWMS will send a referral package to the City Attorney, the Franklin County Sheriff Environmental Unit, or the Ohio Environmental Crimes Task Force for evaluation of criminal actions. The following factors that will be considered for criminal enforcement action referrals will include, but are not limited to:

- Willfulness of the violation,
- Knowledge about the violation,
- Nature and seriousness of the act,

- Need for future deterrence,
- Compliance History,
- Availability of solid evidence,
- The appropriateness of other available administrative enforcement measures, and/or
- Falsification.

Measurable Goals
The following measurable goals have been established for this BMP:

- Update post-construction BMP database monthly to include new BMPs that are planned and constructed as part of new and redevelopment projects.
- Enter results of post-construction BMP inspections into tracking database for each BMP inspected.
- Review annually for update an enforcement action schedule that documents enforcement actions the City will take to ensure compliance with the City's post-construction BMP maintenance requirements.
- Apply appropriate enforcement actions to ensure post-construction BMP maintenance compliance.

Evaluation Methods
In the Annual Report the City will present the updated database used to manage BMPs and present data documenting enforcement procedures taken during the previous permit year. Presentation and discussion of this information in the Annual Report will be considered achievement of the measurable goals.

Responsible Department: Stormwater and Regulatory Management Section

Section 6
Pollution Prevention/Good Housekeeping (GH) Program

The City continues to implement its pollution prevention/good housekeeping program to reduce stormwater pollution from City operations. The program's best management practices (BMPs) include pollution prevention procedures and training. The following sections detail the BMPs selected to address the program requirements identified by the Permit.

6.1 List of Municipal Operations

Required SWMP Component

The City must maintain an inventory of municipal operations subject to the operation and maintenance program. The City must include a list of industrial facilities it owns or operates that discharge stormwater to its MS4 and are subject to 40 CFR 122.26 (b)(14) "Storm Water Discharges Associated with Industrial Activity". The list should either show the NPDES permit and facility number, or indicate the date the No Exposure Certification form was submitted. Municipally owned or operated facilities not subject to 40 CFR 122.26 (b)(14) but listed in the permit must also be included in the inventory.

The City must identify on a map where the municipally owned and/or operated industrial facilities are located. The map shall identify the outfalls corresponding to each of the facilities as well as the receiving waters to which these facilities discharge. The map shall be maintained and updated regularly.

6.1.1 BMP GH1 – Maintain Inventory of Facilities Owned/Operated and Activities Conducted by the City Having the Potential to Generate Stormwater Pollution

Rationale Statement

Maintaining a database inventory of all municipal operations, including industrial facilities, and pollution-generating activities subject to stormwater permit requirements will assist the City in identifying potential pollutant sources. As pollutant sources are identified appropriate pollution prevention practices can be established and the industrial permit status of each facility can be verified.

The measurable goals were selected to track implementation of this BMP by tracking the annual review and updating of the inventory.

Description and Implementation Approach

The City continues to evaluate, inspect, and maintain an inventory and GIS coverage of municipal facilities that have the potential to generate stormwater pollution. Non-site specific activities performed by City personnel are also evaluated to assess their stormwater pollution potential. Sites identified as having stormwater pollution potential are evaluated through staff

interviews and observations of activities during site inspections to determine if activities conducted at the site warrant permit coverage under Ohio EPA's general industrial stormwater permit. Those sites requiring industrial permit coverage are designated as Tier I sites in the City's database inventory. Sites where stormwater pollution potential exists but are not eligible for industrial permit coverage are designated as Tier II. The current lists of both Tier I and Tier II facilities are updated annually and provided in the City's annual report. The list includes the facility location, indicates whether the facility is subject to Ohio EPA's industrial permit program, and provides the NPDES permit number (if applicable). The City incorporates the locations of inventoried facilities into the City's existing outfall mapping and stream coverage GIS application.

The inventory is updated annually to remove sites that are no longer used by the City and to include new sites as they are developed. The City compares activities conducted at newly identified operation and maintenance locations to the facility types listed in Ohio EPA's current industrial permit to determine permit coverage eligibility.

Measurable Goals
The following measurable goals have been established for this BMP:

- Review and update the inventory and GIS coverage annually.

- Compare inventoried facilities to applicability requirements of Ohio EPA's Industrial Stormwater Permit upon each 5-year permit renewal period.

Evaluation Methods
In the Annual Report the City will present an updated inventory of City facilities that are permitted. Presentation of the updated inventory in each subsequent Annual Report will be considered achievement of the measurable goals.

Responsible Department: Stormwater and Regulatory Management Section in cooperation with the respective departments, divisions and facilities.

6.2 Pollution Prevention Procedures

Required SWMP Component
The City must continue to implement or develop where required a storm water pollution prevention plan (SWPPP) for all municipal facilities subject to this program. Where a plan must be developed for a facility, the plan must be written and implemented within two years of the effective date of the permit or acquisition of the facility. A hard copy or electronic copy of the SWPPP must be available for reference at municipally owned or operated facilities subject to this program.

The City must implement controls to minimize the discharge of pollutants from streets, roads, highways, municipal parking lots, maintenance and storage yards, waste transfer stations, fleet or maintenance shops with outdoor storage areas, salt/sand storage locations and snow disposal

areas operated by the City. The City may include street sweeping practices, leaf collection and anti-litter programs to reduce the discharge of pollutants to the maximum extent practicable.

Materials exposed to stormwater will be covered where feasible.

The City shall educate all personnel performing deicing operations for the City on the proper maintenance of spreading equipment, proper spreading practices and optimum application rates to minimize impacts to water quality. The City shall store deicing materials (salt, sand, cinders, etc.) under cover or with use of other control measures (e.g., dikes) at all of its storage facilities.

The City must continue to implement standard operating procedures for vehicle fueling and receiving bulk fuel deliveries at municipally owned facilities with the goal of reducing the likelihood of spills and providing spill controls in the event a spill occurs. Spill kits shall be maintained and accessible in a highly visible location at appropriate facilities.

The discharge of equipment wash water to the MS4 or to receiving waters is prohibited. The City may meet this requirement by installing a water reclamation/recycling system, capturing and hauling the wastewater for proper disposal, connecting to a sanitary sewer, or ceasing the activity.

The City must develop a procedure to dewater and dispose of materials extracted from catch basins and street sweepings so that the water removed and the waste material will not re-enter the MS4.

6.2.1 BMP GH2 - Develop and Implement Pollution Prevention Practices for City Facilities/Activities

Rationale Statement

Stormwater pollution prevention plans (SWPPPs) define appropriate specific stormwater management practices for City operation and maintenance facilities having the potential to generate stormwater pollution. SWPPPs must be prepared for City facilities subject to the industrial stormwater NPDES general permit (Tier I) and other facilities / sites with the potential to generate stormwater pollution (Tier II). The measurable goals were selected to track development and implementation of written pollution prevention procedures, SWPPPs, and inspection activities.

Description and Implementation Approach

Pollution prevention practices for Tier I facilities are implemented through SWPPPs, in accordance with Ohio EPA's Industrial Stormwater Permit. Managers operating Tier I facilities are:

1) Advised that the sites they operate must be covered under industrial permit coverage or no exposure certification,

2) Provided examples of Notice of Intent (NOI) or No Exposure Certification form and advised where to send it, and

3) Advised of their obligation to prepare SWPPPs for each facility requiring permit coverage.

It is the sole responsibility of the identified operators to prepare and submit the necessary forms and SWPPPs.

The City implements pollution prevention practices at Tier II facilities through the development of SWPPPs as well. Facility operators at Tier II locations are:

1) Advised of the stormwater pollution generating facilities/activities observed at each site,

2) Advised of available management practices for controlling these pollutant generating activities, and

3) Presented with an electronic template for preparing a simple SWPPP that describes pollution generating activities and the preferred control practices for each including:

   - A list of individuals responsible for implementing the plan,
   - A description and map of site drainage features including stormwater outfall locations,
   - An assessment of pollution generating activities,
   - Written stormwater pollution control procedures,
   - Requirements for periodic staff training, and
   - Requirements for periodic facility inspections by facility operators.

To accomplish this, the City:

1) Continues to identify and list common activities that have the potential to generate stormwater pollution (Section 6.1.1).

2) Maintains a series of written procedures for each activity identified as having pollution potential, including use of spill kits at bulk refueling locations, and provided information on methods that can be used to reduce or eliminate the pollution potential of that activity. **Appendix H** provides written pollution prevention practices that are available for incorporation into SWPPPs for Tier II facilities.

3) Identifies personnel at each site and/or within each City department that will be responsible for overseeing the implementation of the pollution prevention practices, training of onsite

personnel on pollution prevention practices, and performing periodic inspections for Tier II facilities.

4) Compiles information acquired under Items 2 and 3 above into written stormwater pollution prevention plans for each site/activity.

Personnel within each City department/division are responsible for conducting periodic stormwater inspections of their respectively owned and managed facilities. SRMS participates in some of these inspections in an advisory role.

The City maintains the database discussed under Section 6.1.1 to track the submission of NOIs to Ohio EPA, the development of stormwater pollution prevention plans for both Tier I and Tier II facilities, and implementation of pollution prevention practices by the respective City Departments and Divisions.

Measurable Goals
The following measurable goals have been established for this BMP:

- Submit Notices of Intent and prepare Stormwater Pollution Prevention Plans (SWPPPs) or submit No Exposure Applications to Ohio EPA for Tier I (see rationale statement for definition) City facilities that require coverage under Ohio EPA's Industrial Stormwater Permit Program.

- Maintain and distribute written pollution prevention practices and materials online to representatives of operating City departments.

- Incorporate written pollution prevention practices into SWPPPs for any new Tier II City facilities that are developed (see rationale statement for definition).

- Continue to implement pollution prevention practices at City-owned and operated O&M facilities that include maintenance of spill kits at City refueling facilities and covering of materials stored outdoors where warranted.

Evaluation Methods
In conjunction with each Annual Report, the City will update its progress in developing and implementing SWPPPs and pollution prevention practices for Tier I and Tier II facilities/activities. Performance of initial site inspections, adoption of written pollution prevention practices, and preparation of SWPPPs for any new Tier I and Tier II facilities will be considered achievement of the measurable goals. Submission of NOIs for Tier I facilities will also be considered achievement of the measurable goals.

Responsible Departments: Stormwater and Regulatory Management; Department of Public Utilities Regulatory Compliance Section; Division of Sewerage and Drainage; Transportation Division; Department of Recreation and Parks; Division of Fleet Maintenance; Division of Water and Power; Division of Refuse; Division of Facilities Maintenance; and Department of Safety, including Division of Fire and Division of Police.

6.2.2 BMP GH3 – Street Cleaning

Rationale Statement

The Public Service Department utilizes a street sweeping program to remove curbside litter and debris from City streets and a roadside litter program to collect litter from roadside areas. Routine street sweeping and roadside litter pick-up can minimize litter, debris, sediment, and other potential pollutants from reaching receiving waters and reduce the frequency of conveyance system cleaning. The measurable goals were selected to track implementation of this BMP through the purchase of high efficiency sweepers, tracking of the annual street sweeping and litter pick-up performance, and implementation of proper storage and disposal practices for collected street sweeping debris.

Description and Implementation Approach

In an effort to enhance the stormwater quality aspects of the Street Sweeping Program, the city continues to purchase more efficient street sweepers, capable of removing particles of 10 microns in size (meeting PM10 specifications), as aging sweepers are replaced. The City also tracks the total number of lane miles swept and the total tonnage of debris removed from City streets during street sweeping and litter pick-up operations.

The City of Columbus has approximately 3,000 curb miles within the City's roadway system. The average daily production of City sweepers is four miles per hour per sweeper. **Table 6-1** presents the sweeping frequency for each roadway classification. As shown, street sweeping is performed during April 1st through October 31st. Factors such as weather, changing seasonal conditions and equipment performance may effect how closely this schedule is followed. The City also performs special sweeping as requested by Civic organizations, usually for a special event.

Table 6-1. Street Sweeping Frequencies

Roadway Classification	Frequency
Residential	Twice each year (April through October)
Posted Residential Areas	As scheduled (April through November)
Arterial	Once a month (April through October)
State Route/Freeway	Once a month (April through October)
Central Business District (Downtown)	Three times per week (April through October)

Measurable Goals

The following measurable goals have been established for this BMP:

- Continue to incorporate high efficiency sweepers (PM-10 street sweeping equipment) into the City's street sweeping inventory.

- Sweep each curbed city street at least twice per year. Track and report total lane miles swept annually.

- Collect and dispose of all debris and litter collected from street sweeping and roadside litter pick-up operations at a sanitary landfill. Track and report total tonnage of material collected and disposed each year.

- Continue to implement existing practices to reduce stormwater pollution from storage of materials collected during street sweeping operations and incorporate permanent structural controls when and where feasible.

Evaluation Methods
In conjunction with the Annual Report, the City will present updated information on the City's street sweeping and litter clean-up programs. Continuing the process to purchase high efficiency sweepers, presentation of tracking data for street sweeping and roadside litter pick-up performance, and evaluation of street sweeping material handling will be considered achievement of the measurable goals.

Responsible Department: Department of Public Service, Transportation Division

6.2.3 BMP GH4 – Deicing and Snow Removal

Rationale Statement
The City has established BMPs for its Deicing and Snow Removal Program to minimize impacts to stormwater runoff quality while providing for the safety of the traveling public. The measurable goals were selected to track implementation of this BMP in terms of providing proper storage, spreading rates, and staff training to minimize impacts to water quality.

Description and Implementation Approach
The Public Service Department is responsible for maintenance of public roadways in the City of Columbus, including the use and storage of deicing materials for use on City streets. (The Ohio Department of Transportation is responsible for conducting the deicing operations on all interstate within Columbus).

Winter operations are conducted and managed out of the City's Command Center located at 1850 East 25th Avenue. Additional plows are dispatched from four outposts located around the City. All five locations have a supply of salt, sand and liquid calcium chloride. Salt Brine is stored at 1850 East 25th Avenue and at the Central Outpost location. Stockpiled salt and other deicing materials are stored under roof or otherwise prevented from entering stormwater runoff.

The City currently operates a fleet of 72 salt trucks in the winter to apply salt and/or other deicing compounds. The primary consideration for all deicing material application is for the safety of the public traveling within the City of Columbus. All salt spreaders are calibrated on an

annual basis and frequently checked to meter the minimum amount of material required for public safety thereby avoiding the introduction of increased concentrations of deicing material into stormwater runoff. The City also uses "spotters" assigned to patrol quadrants of the City during winter months. The spotters monitor the effectiveness of the deicing material utilized by the maintenance crews and report additional needs to the Command Center, avoiding the introduction of unnecessary deicing material in stormwater runoff by applying the material where needed. **Table 6-2** lists the conditions under which each material is applied. **Table 6-3** outlines the general material application and plowing guidelines.

Table 6-2. Deicing Material Application

Pavement Conditions	**Salt (A)**	**Salt/Liquid Calcium (B)**	**Sand (C)**	**Anti-icing Salt Brine (D)**
30-32 degrees, wet	X			
30-20 degrees, wet	X			
20-10 degrees, wet		X	X	
<20 degrees, dry	X*			
< 10 degrees, wet		X	X	
Anticipated Black ice Heavy Frost				X

* Icy spots, as needed.

Table 6-3. Guidelines for Material Application and Plowing

Snow Accumulation	**Freeway**	**Arterial**	**Collector**	**Residential**	**Downtown Intersections/ Bridge Walks**
Prior to snow	D	D			
0-1"	A/B	A/B			
Icy Pavement	A/B	A/B	A/B		A
1"-2"	A/B	A/B			
2"-4"	Plow, A/B	Plow, A/B	Plow, A/B or A/C	Plow, A/B or A/C	
4-"6"	Plow, A/B	Plow, A/B	Plow, A/B or A/C	Plow, A/B or A/C	Clear, A
6"+	Plow, A/B	Plow, A/B	Plow, A/B or A/C	Plow, A/B or A/C	Clear, A

Note: A – Salt, B – Salt/Liquid Calcium, C - Sand, D - Anti-icing Salt Brine

In-service training is conducted each autumn for personnel engaged in the winter operations program. Training provides hands-on experience and an overview of systems, policies and procedures. The program provides employees the opportunity to re-acquaint themselves with the vehicles/equipment used in the snow/ice removal operations. Overview of salt utilization programs, the weather forecasting system, the snow spotter program, awareness of environmental impacts from over-application of material, and other related topics are discussed. Service and product representatives are on hand to conduct in-service overviews of certain procedures and equipment in conjunction with training provided by experienced supervisory personnel. Typical training consists of:

- Snow Warrior training – ½ day classroom, ½ day hands-on training,
- Dry Runs of all routes by regular personnel at assigned locations,
- Spotter Training,
- Dispatcher Training, and
- Peer to Peer Training hands on for non-experienced personnel both division and non-division – provides a ½ day session with an experienced equipment operator.

Measurable Goals
The following measurable goals have been established for this BMP:

- Continue to store all deicing material stockpiles under roof or otherwise prevent stored materials from entering stormwater runoff.
- Annually calibrate salt spreaders to meter the minimum amount of material for public safety.
- Provide training annually to City staff performing deicing operations to ensure that the established BMP procedures are followed and the minimum amounts of deicing materials are applied to ensure pubic safety.

Evaluation Methods
In conjunction with the Annual Report, the City will present information on the City's deicing program. Continuing to store all deicing material stockpiles under roof or otherwise preventing stored materials from entering stormwater runoff will be considered achievement of the measurable goals. Annual equipment calibration and staff training will also be considered achievement of the measurable goals.

Responsible Department: Department of Public Service, Transportation Division

6.2.4 BMP GH5 - Refuse Collection

Rationale Statement
The Division of Refuse oversees programs to promote litter clean ups, recycling, collect yard waste, and household hazardous waste that reduce the amount of floatables and debris that enters the stormwater system. The measurable goals were selected to track implementation of this BMP in terms of publicizing the programs to City residents and tracking collection rates for review.

Description and Implementation Approach
The Public Service Department's Refuse Collection Division's KCB (Keep Columbus Beautiful) program promotes and coordinates litter clean-ups and provides educational services and materials to local schools. KCB provides trash bags and other supplies for volunteer groups who wish to organize neighborhood or stream bank litter clean ups.

The Refuse Collection Division provides yard waste collection biweekly throughout the year. Yard waste and leaves are collected in reusable containers and paper yard waste bags, as opposed to allowing residents to sweep leaves to the curb, where they could wash away in stormwater.

The City also has a biweekly residential curb-side recycling program. Collection of recyclable materials helps to reduce floatables and debris that might otherwise enter the stormwater system. Alternatively residents may choose to use the drop-box recycling program to dispose of their recyclable goods. This program has drop box locations throughout the City, at Columbus City Schools, fire stations, parks, recreation centers, and some participating stores. This program is administered through the Solid Waste Authority of Central Ohio (SWACO).

SWACO also collects household hazardous waste throughout the year in various locations. See Section 3.2.5 for more information on this program.

Measurable Goals
The following measurable goals have been established for this BMP:

- Collect and dispose of refuse weekly and recycled materials biweekly from households within the city. Track and report the amount of refuse and recycled materials collected and disposed.
- Coordinate at least one neighborhood refuse collection campaign per year.
- Collect yard waste from single-family residential households biweekly. Track and report amount of yard waste collected and disposed.

Evaluation Methods
In conjunction with the Annual Report the City will present tracking data for the implementation of the City's refuse, recyclables, and yard waste collection programs. Presentation of this information will be considered achievement of the measurable goals.

Responsible Department: Division of Refuse

6.3 Stormwater Facility Maintenance

Required SWMP Component

The City must inspect its detention ponds for sediment and mow and remove accumulated debris as necessary. The City must regularly remove litter and debris from the open ditches and trash racks located on the upstream end of culverts. The City must continue to perform its existing maintenance activities for catch basins and inlets. The City should use information compiled from citizen complaints, previous reports, and high value waters to help in assigning the appropriate priority level.

The City must visually monitor drainage structures for problem areas such as those with recurring illegal dumping. Removal of trash or debris from open channels and other drainage structures shall occur annually.

6.3.1 BMP GH6 – Stormwater Infrastructure Inspection, Tracking, and Maintenance

Rationale Statement

The City's Sewer Maintenance Operations Center (SMOC) provides the maintenance, inspection, and repair of stormwater infrastructure to maintain the conveyance of stormwater and to minimize pollutant discharge from the MS4. Periodic removal of floatables from the conveyance system will reduce the amount of pollutants, trash and debris reaching receiving waters. The measurable goals were selected to track the effectiveness of this BMP in providing regularly scheduled inspection and maintenance and to track the implementation of this BMP in terms of maintenance tracking.

Description and Implementation Approach

The stormwater infrastructure inspection, tracking, and maintenance program involves structures designed for controlling stormwater flow and/or collection of floatable debris or other pollutants in runoff. The program is managed by the City's Sewer Maintenance and Operations Center (SMOC) and tracked in the City's Oracle Utilities Work and Asset Management (WAM) database (the current catch basin inspection program is not tracked in the database). The following describes the City's current stormwater infrastructure maintenance program.

Catch basins/Inlets: Catch basin and inlet cleaning reduces flooding and provides a water quality benefit from the removal of sediment and debris. SMOC has a hardcopy list of catch basins and inlets in the stormwater collection system to guide an inlet inspection and cleaning program for both a contract held by a private contractor and for SMOC personnel. The City inspects the catch basins prior to the cleaning. SMOC also inspects and cleans catch basins when a call is received from the public. The City prioritizes the catch basins that the City crews clean, with catch basins in designated Campus Partners and Neighborhood Pride areas and State Routes 315 and 104 having the highest priority.

Sewer Inspection and Repair: SMOC inspects and repairs the storm and sanitary sewers to evaluate structural conditions, identify blockages and debris buildups, and prevent potential sanitary overflows to the MS4 or receiving streams. SMOC operates closed-circuit television to aid in locating blockages, sewer condition and sources of infiltration or illicit connections.

Detention Basins: SMOC inspects City-maintained detention basins every week during the mowing season and monthly during the off season.

As discussed in Section 6.3.1, the City will maintain detention basins and stormwater wetlands that serve single-family residential sites developed after March 20, 2006. Homeowners Associations are required to maintain all other types of BMPs that serve single-family residential sites. Property owners are responsible for maintaining all BMPs on non-residential sites.

Trash Racks: The City has a full time trash rack crew that is responsible for removing debris from trash racks throughout the city. The frequency of trash rack cleaning varies from location to location based on past experience with how quickly debris accumulates at a particular site. Extra attention is given to cleaning before and after heavy rains.

Storm Sewers and Culverts: Storm sewers and culverts are inspected when complaints are received about flooding and cleaned if the inspection reveals a blockage of debris or silt.

Ditches/Channels: The City primarily uses a private contactor to clean ditches and install erosion protection. The frequency of ditch cleaning depends on the type, size, and upstream development (e.g., construction upstream may result in increased sedimentation). To minimize pollution from ditch cleaning, the City pumps standing water from the ditch to a grassy area, installs straw bales in clean ditches, and protects reseeded areas with erosion and sediment control blankets.

Stormwater Pump Stations: SMOC operates and maintains 16 stormwater pump stations. The wet wells collect sediment and debris during rain events and have also collected petroleum product (diesel and gasoline) from accidental spills preventing a release to receiving waters. Pump station maintenance and cleaning helps reduce sediments, floatables, and oxygen demanding waste. Storm pump stations are monitored using SCADA and SMOC cleans them when the accumulation of sedimentation and debris is significant enough to affect operations.

Debris collected from cleaning catch basins, trash racks, storm sewers, culverts and stormwater pump stations is dewatered on concrete pads at the either the City's Sewer Maintenance facility at 1250 Fairwood Avenue or the City's Grit Pad at 1388 Emig Road. The concrete pads at both locations drain to the City's sanitary sewer system. Solid materials remaining after dewatering are disposed of at a sanitary landfill.

Measurable Goals
The following measurable goals have been established for this BMP:

- Inspect 10,000 catch basins/inlets annually for cleaning.

- Televise 15,000 lineal feet of storm sewer annually.
- Clean 50,000 feet of storm sewer pipe per year.
- Inspect all stormwater pump stations at least once quarterly.
- Inspect, clean, mow, or otherwise maintain all DOSD-responsibility stormwater detention/retention basins at least once annually.
- Inspect/clean all DOSD-maintained trash racks at least twice annually.
- Clean 30,000 lineal feet of drainage ditches annually.
- Maintain and update a database to track regular stormwater facility inspection and maintenance.
- Follow written pollution prevention practices for stormwater system maintenance activities.

Evaluation Methods
In conjunction with the Annual Report the City will present tracking data for the implementation of the City's stormwater infrastructure inspection, tracking, and maintenance program. Maintenance of stormwater infrastructure, updating of the City's maintenance tracking database, and development of written pollution prevention practices to reduce stormwater pollution during sewer maintenance activities will be considered achievement of the measurable goals.

Responsible Department: Sewer Maintenance and Operations Center

6.4 Training and Education

Required SWMP Component
The City must develop and implement an annual employee training program to prevent and reduce stormwater pollution from City activities. Activities may include parks and open space maintenance, fleet and building maintenance, new construction and land disturbances, and stormwater system maintenance. All new employees shall receive training within one year of their hire date. This training shall include a general stormwater education component.

6.4.1 BMP GH7 - Employee Stormwater Pollution Awareness Training

Rationale Statement
To prevent and reduce stormwater pollution from City facilities and activities, the City performs stormwater pollution awareness training to new employees through the City Employee Orientation Program. The measurable goals were selected to ensure that all new City employees receive stormwater pollution prevention information and that the training materials are periodically reviewed and updated as necessary. Current employees working at Tier I and Tier II

facilities will be given annual training on the significance of reducing stormwater pollution and the contents of SWPPPs prepared for the facilities where they work.

Description and Implementation Approach
The City incorporates information on stormwater pollution prevention awareness into presentations given during the City's Employee Orientation programs. Awareness training advises employees on how to identify illicit discharges and offers employees a phone number to contact should they witness an illicit discharge to the City's storm sewer system. City-wide orientation is typically conducted once each quarter.

As described in Section 6.2.1, City facilities and activities with the potential to generate stormwater pollution will be required or advised to develop SWPPPs that will include specific employee training for their respective BMPs and activities.

Measurable Goals
The following measurable goals have been established for this BMP:

- All new City employees undergoing orientation will receive information on stormwater pollution awareness.
- All new City employees undergoing orientation will be informed of the need to report illicit discharges and provided contact information to report same.
- City employees that conduct activities at City Tier I and Tier II sites will be trained on elements of their respective stormwater pollution prevention plans annually.
- Conduct updated training refresher once every permit term for personnel responsible for overseeing the implementation of pollution prevention practices at City Tier I and Tier II sites.

Evaluation Methods
In conjunction with the Annual Report, the City will track the number of employees participating in stormwater pollution awareness training sessions during Citywide Orientation. The City will also compile annual pollution prevention training summaries for employees working at Tier I and Tier II facilities. Presentation of the number of trained participants in the Annual Report will be considered achievement of the measurable goals.

Responsible Departments: Stormwater and Regulatory Management; Training Advisory Council (Human Resources); Division of Sewerage and Drainage; Transportation Division; Department of Recreation and Parks; Division of Fleet Maintenance; Division of Water and Power; Division of Refuse; Division of Facilities Maintenance; and Department of Safety, including Division of Fire and Division of Police.

Section 7
Industrial and Related Facilities (IF) Program

The City continues to implement its Industrial and Related Facilities Program to inspect industries for compliance with national and state stormwater rules and regulations associated with industrial user activities. BMPs for the Industrial and Related Facilities Program include regulations and procedures for inspection, enforcement, and tracking. The following sections detail the BMPs selected to address the required regulations and procedures identified by the Permit.

7.1 Inventory of Industrial Facilities

Required SWMP Component

The City must maintain an inventory of industrial facilities meeting the definition of same provided in 40 CFR 122.26(b)(14)(i) through (ix) and (xi) that discharge to the City's MS4. The inventory must be updated periodically.

7.1.1 BMP IF1 – Prepare Inventory of Industrial Facilities

Rationale Statement

Maintaining a database inventory of industrial facilities allows the City to identify potential pollutant sources and verify the industrial permit status of each facility. This information aids both the Industrial and Related Facilities Program and Illicit Discharge Detection and Elimination Program. It should be recognized that the City's inventory changes frequently as existing companies go out of businesses, industrial operations are shifted placing a facility under different SIC codes that are not eligible for permit coverage, and new regulated companies go online. The measurable goals, therefore, were selected to track implementation of this BMP over time in terms of annual updating of the inventory.

Description and Implementation Approach

The City is using U.S. EPA's definition of stormwater associated with industrial activity [40 C.F.R. 122.26(b)(14)] to define industries that are potentially contributing a substantial pollutant loading to the City's MS4 and to identify industry categories that require permit coverage. Information from the U.S. Department of Labor, Occupational Safety & Health Administration is used to identify and list the 4-digit SIC codes for categories ii, iii, vi, viii, and xi of U.S. EPA's definition. **Appendix I** lists the categories of facilities considered to be engaging in industrial activity and related SIC code definitions. To identify the SIC codes for category i facilities, the City matches the descriptions of facilities listed in category i with the SIC descriptions provided by the U.S. Department of Labor, Occupational Safety & Health Administration.

In addition to the Harris InfoSource database, the following sources of information were also used to identify new industries that were added to the City's inventory:

1) PinPointer software,

2) Franklin County industrial parcels,

3) City of Columbus Health Department SARA 313 list,

4) Ohio EPA NPDES industrial stormwater permit list,

5) Ohio EPA NPDES wastewater permits

6) Industries identified through past illicit discharge and detection investigations, and

7) The list of industries regulated by the City's Industrial Waste Pretreatment Program.

Once an industry is identified, the City uses mapping of its MS4 and, in some instances, facility construction drawings to determine whether or not facility discharges are directed to the City's MS4. Those facilities that meet the criteria of 40 CFR 122.26(b)(14) and are found to discharge to the MS4 are added to the inventory.

The inventory is continuously updated to remove industries that are no longer in operation or to add new industries that are established. Industries that no longer operate are identified during field inspections. New industries are identified by one or more of the following means:

1) NOIs submitted as part of Stormwater Management Plans submitted for site expansion or development projects,

2) New industries identified within the Daily Reporter, a news publication that provides up-to-date information about legal company/real estate transfers within the business community in Central Ohio,

3) Industries identified through recent illicit discharge and detection investigations,

4) New industries identified under the Industrial Wastewater Pretreatment Group,

5) Industries identified during transit to and from other industrial inspections,

6) Phone book/internet, or

7) Review of industrial stormwater permittee inventory maintained by Ohio EPA.

8) New industries identified within the Columbus Business First, a weekly news publication that provides information on new and existing companies.

9) A supplemental questionnaire used by the water and sewer permitting office, that must be completed when a permit is issued for any sewer work. The questionnaire is forwarded to the Industrial Wastewater Pretreatment Group for review and follow-up, if necessary.

The final database inventory includes, but is not limited to, the industry name, SIC code, street address, industrial NPDES permit coverage status, and the data source used to identify each industry.

Measurable Goals
The following measurable goals have been established for this BMP:

- Maintain a list of industries that have the potential for meeting the definition of 40 CFR 122.26(b)(14).

- Update the inventory annually based on the information sources identified in this section.

Evaluation Methods
In the Annual Report the City will present the status of the current inventory of industrial facilities. Completion of the inventory and annual presentation of the updated inventory will be considered achievement of the measurable goals.

Responsible Department: Stormwater and Regulatory Management Section

7.2 Industrial Facility Inspection Schedule and Inspection Form

Required SWMP Component
The City must establish priorities, maintain an inventory of industries for inspection and use an inspection form to establish frequencies of inspections.

7.2.1 BMP IF2 – Acquisition, Review, and Tracking of Permit Information, Stormwater Pollution Prevention Plans, and Industrial Monitoring Data

Rationale Statement
Determining permit status and acquiring industrial facility SWPPPs and monitoring data are needed to develop an industrial inspection schedule. This BMP consists of three primary tasks that include 1) acquisition of industrial permit coverage, monitoring, and SWPPP information, 2) categorizing each facility with respect to its permit/no exposure coverage status, and 3) development of a central filing system where the data is to be kept readily accessible. The measurable goals were selected to track implementation of this BMP by tracking a milestone for acquiring SWPPPs and regular filing of that information.

Description and Implementation Approach
The City will send a letter to each industry added to its inventory instructing them to either a) provide proof of permit coverage or no exposure certification to the City, or b) contact the Ohio Environmental Protection Agency (Ohio EPA) to request NPDES industrial stormwater permit compliance guidance. Industries that cannot show proof of NPDES permit coverage or no exposure certification by Ohio EPA or the industrial operator will be classified as Category 1 industries. Industries will be classified as Category 2 industries if Ohio EPA or the industrial

operator can show proof of coverage under an industrial NPDES permit or no exposure certification by Ohio EPA and discharge to the City's MS4. Once a Category 1 industry obtains permit coverage, the industry will be reclassified as Category 2 so long as it meets the criteria stated above.

The letter will also request that Category 2 industries submit copies of their Stormwater Pollution Prevention Plans and monitoring data, if applicable, to the City for review and filing. The City may also request copies of SWPPPs and monitoring data from Ohio EPA if such information is available.

Measurable Goals
The following measurable goals have been established for this BMP:

- Contact Ohio EPA and newly identified industries at least once each year to request:

    a. Ohio EPA NPDES permit numbers or Notices of Intent forms,

    b. Ohio EPA No Exposure Certification numbers,

    c. Stormwater Pollution Prevention Plans (SWPPPs)

    d. Stormwater monitoring data.

- Update classifications of Category 1 and Category 2 industries annually.

- Maintain a hard copy file for SWPPPs and monitoring data received for each Category 2 industrial facility.

Evaluation Methods
In the Annual Report, the City will present the number of industries for which the City has requested and received permit coverage information, SWPPPs, and stormwater monitoring data. The City will also report on the number and provide lists of Category 1 and Category 2 industries it has identified as information from Ohio EPA and industrial facilities is received. Requesting the data, classifying Category 1 and Category 2 industries, and maintaining hard copy files for the data received will be considered achievement of the measurable goals.

Responsible Department: Stormwater and Regulatory Management Section

7.2.2 BMP IF3 – Establish Industrial Facility Inspection Schedule

Rationale Statement
Maintaining a prioritized industrial facility inspection schedule assists the City in identifying potential pollutant sources and verifying the industrial permit status of each facility. This information aids both the Industrial and Related Facilities Program and Illicit Discharge Detection and Elimination Program. The first step to developing a schedule is determining which

industries have developed Stormwater Pollution Prevention Plans and are implementing BMPs for inspections. To determine in what order industries will be inspected, the City reviews the pollution potential for those Category 2 industries for which the City has received a SWPPP.

Description and Implementation Approach
The City prioritizes each Category 2 industry identified under Section 7.2,1 for inspections based on the illicit discharge potential (direct or indirect) of each industry type. Those industries having a greater potential for illicit discharges receive higher priority for inspections than those with a lesser discharge potential. To rate the illicit discharge potential of each industry type, the City assigns either a High, Medium, or Low illicit discharge rating to each Category 2 industry based on information provided in Appendix A of the Illicit Discharge and Detection and Elimination, A Guidance Manual for Program Development and Technical Assessments, developed in cooperation with the Center for Watershed Protection and Robert Pitt with the University of Alabama. Category 1 industries receive a High rating given that their discharges are not covered under an industrial stormwater permit. Industries that receive a High rating are deemed highest priority for inspections; those designated with a Medium rating will receive second priority for inspections, and so on.

Measurable Goal
The following measurable goal has been established for this BMP:

- Evaluate and prioritize industries for inspections annually.

Evaluation Methods
The City will present updated numbers of prioritized Category 2 industries in the Annual Report. Completion of the inventory prioritization and annual presentation of the updated inventory will be considered achievement of the measurable goals.

Responsible Department: Stormwater and Regulatory Management Section

7.2.3 BMP IF4 – Industrial Facility Inspection Form

Rationale Statement
Reviewing and revising the City's existing Stormwater Industrial Site Inspection form provides City inspectors with the guidance necessary to perform a more thorough review of a facility's NPDES and Stormwater Pollution Prevention Plan (SWPPP) status. The City has an existing stormwater industrial site inspection form; therefore, the measurable goals were selected to track implementation of this BMP in terms of reviewing and updating the form.

Description and Implementation Approach
Appendix J contains the Stormwater Industrial Site Inspection form used to conduct stormwater industrial site inspections by City staff. The Form contains sections for NPDES status, SWPPP status, site inspection, signatures, and a checklist of common stormwater pollution areas to be checked during inspection.

Measurable Goals
The following measurable goals have been established for this BMP:

- Review annually for update, the Stormwater Industrial Site Inspection form.

Evaluation Methods
In conjunction with the Annual Report, the City will review the Stormwater Industrial Site Inspection form and may recommend updates to the form based on feedback from inspectors, and for consistency between the form and any new Ohio EPA industrial stormwater permit requirements. Discussion of this review in the Annual Report will be considered achievement of the measurable goal.

Responsible Department: Stormwater and Regulatory Management Section

7.3 Industrial Facility Inspections

Required SWMP Components
For industrial facility inspections, the City must confirm that, if required, the industrial facility has filed an NOI for coverage under the General NPDES permit for industrial stormwater discharges, a SWPPP, and that the industrial facility has implemented and is maintaining any major BMPs identified within the SWPPP. The Permittee shall coordinate training for its staff in order to implement the industrial site inspection requirements. The Permittee shall review and have a mechanism or method for tracking application information; data obtained from Ohio EPA for industrial stormwater permittees discharging into the City's MS4; and monitoring data obtained from industries and Ohio EPA.

During an industrial inspection, if the City discovers that the industrial facility is violating the NPDES stormwater permit requirements, the City will notify Ohio EPA. If the inspection reveals violation of any City code or regulation pertaining to stormwater quality management and pollution prevention activities, the City must initiate formal enforcement activities as appropriate per City code.

The City's Annual Report will list all industries that are discharging to its MS4, meet the definition of 40 CFR 122.26 (b)(14), but cannot provide proof of NPDES permit coverage or a No Exposure Certification response letter from the Ohio EPA for their stormwater discharges.

7.3.1 BMP IF5 – Staff Training

Rationale Statement
Inspector training assists City industrial inspectors in performing industrial inspections throughout the MS4. Because limited outside training opportunities are currently available to municipalities on this subject matter, the City's staff training program will emphasize on-the-job training with experienced inspectors, supplemented by online training, seminars, workshops, and stormwater BMP training videos. The measurable goals were selected to track implementation of this BMP by tracking participation in related training opportunities as they become available.

Description and Implementation Approach
Industrial Waste Pretreatment Group (IWP) personnel have conducted stormwater inspections at facilities subject to the City's industrial pretreatment program since the City's first MS4 permit was issued in May 2000. City personnel have received on-the-job training by accompanying experienced Ohio EPA inspectors during State-conducted inspections of various industry types throughout the City. The use of other training materials such as U.S. EPA's website, webcasts, online coursework, topic-related seminars/workshops, and stormwater BMP videos are used to supplement the training component of this program.

Measurable Goal
The following measurable goal has been established for this BMP:

- Implement routine training programs for employees that perform industrial site inspections.

Evaluation Methods
In the Annual Report the City will discuss the training opportunities in which City industrial inspectors participated and present the number of staff trained. Completion of at least one training opportunity, including joint inspections conducted with Ohio EPA, annually will be considered achievement of the measurable goal.

Responsible Department: Stormwater and Regulatory Management Section

7.3.2 BMP IF6 – Industrial Facility Inspections

Rationale Statement
Standard industrial inspection procedures are needed to ensure that onsite pollution prevention measures are implemented by owners and operators of industrial facilities within the City's MS4 area to protect the quality of stormwater runoff. The measurable goals were selected to track implementation of this BMP by establishing a milestone for the number of inspections of industrial facilities each year during the five-year permit term and a goal for the annual review and updating of these procedures.

Description and Implementation Approach
IWP's primary function is to monitor industrial users that are required by City code to have effluent limitations on their sanitary discharges to the City's sanitary system. To ensure compliance with sanitary sewer use regulations, IWP performs annual inspections at facilities having such restrictions. At the time of these inspections, IWP also inspects these facilities to ensure that the facilities are in compliance with their NPDES industrial stormwater permits.

Not all industries identified by the City as meeting U.S. EPA's definition of industrial activity have restrictions on their wastewater discharges. For these industrial facilities, IWP performs separate stormwater inspections, targeted at the implementation of stormwater best management practices called for in an industry's respective SWPPP.

The following steps summarize the City's stormwater inspection process for industrial facilities.

1) Review: Review stormwater pollution prevention plan and stormwater monitoring data.

2) Schedule Inspection: Contact industrial facility owner/operator to schedule inspection. Verify/obtain the facility's SIC code for applicable stormwater permitting, if not already available.

3) Perform Inspection: Perform a stormwater inspection that consists of the following:

    a. Interior Facility Tour: Completion of an interior facility tour noting the following (The inspector should be prepared with hard hat, safety glasses, and steel toe shoes):

        i. The inspector should ask to conduct the tour beginning from raw receiving to finished product to better understand facility operations.

        ii. Note processes that discharge to the storm sewer system.

        iii. Note wet processes that have been indicated to not discharge to the storm sewer system. Is a means of discharge apparent (e.g., nearby floor drains) or are materials being hauled off-site?

        iv. Note any containment facilities or concerns in relationship to nearby storm drains.

        v. Observe any stormwater treatment devices and signs of proper operation and maintenance.

    b. Exterior Facility Tour: Completion of an exterior facility tour noting the following:

        i. Note industrial activities (e.g., material storage, transfer, or disposal areas; wash areas; processes; etc.) exposed to precipitation.

        ii. Note best management practices in place as stipulated in the facility's SWPPP.

        iii. Check for dry weather discharges to/from the storm sewer.

        iv. Check general condition of storm drains.

4) Document Inspection Findings: Complete the stormwater inspection form and include:

    a. Observations and facts about the facilities operations,

b. Notation of any observed violations, and

c. Photographs.

5) Tracking: All Industrial inspection reports are to be entered into the internet POTW Administration and Compliance System (iPACS), the inspection tracking database.

6) Notification: Forward a copy of the inspection report with supporting information to the industry owner/operator informing them of observed violations and require violations to be addressed. Also forward a copy of inspection report to Ohio EPA noting observed violations of Ohio EPA's stormwater permit.

7) Follow-up Inspection: Perform follow-up inspection to verify the observed violations have been properly addressed.

Measurable Goals
The following measurable goals have been established for this BMP:

- Review annually for update, written procedures that describe how industrial inspections are performed.
- Review the SWPPPs of each permitted industry inspected.
- Inspect each Category 1 and Category 2 industry at least once during the City's MS4 5-year permit cycle.

Evaluation Methods
In the Annual Report the City will present the number of industrial facilities that were inspected during that reporting period. The City will also provide information on any significant changes made to its industrial inspection procedures if applicable. Presentation of this data will be considered achievement of the measurable goals.

Responsible Department: Stormwater and Regulatory Management Section

7.3.3 BMP IF7 – Industrial Facility Inspection Tracking and Enforcement

Rationale Statement
A tracking database for inspection of industrial facilities will help City staff to ensure that investigation, enforcement, and corrective actions are followed for all facility inspections that are performed. The measurable goals were selected to track implementation of this BMP over time in terms of the regular updating and maintenance of the database.

An enforcement action schedule is used to ensure that corrective actions on industrial sites are taken to eliminate illicit stormwater discharges into the City's MS4. The measurable goals were also selected to track enforcement actions taken.

Description and Implementation Approach
Information on industrial inspections conducted by IWP is entered into the internet POTW Administration and Compliance System (iPACS) database. The iPACS database is ideally suited for recording information about industrial site inspections as it contains fields for facility name, type, inspector, business description, operated by, address, contact, hours, waste quantities, disposal method, classification, business process, material/products, outlets/discharges, documents, tracking, sample points, NPDES outfall number, pipe size, and depth to invert. **Appendix K** provides a sample of this database.

Illicit discharges to the MS4 that are observed during industrial inspections are immediately reported to the City's Illicit Discharge and Detection Group for containment, investigation and enforcement action. Illicit discharges to waters of the State that are observed during industrial inspections are immediately reported to the City's Illicit Discharge and Detection Group for containment and to Ohio EPA for investigation and enforcement action.

Columbus City Code 1145 provides the authority to regulate discharges to the MS4 from industrial users. The City uses Columbus City Code 1145 and the illicit discharge enforcement action schedule presented in **Appendix E** to eliminate illicit discharges to the MS4 observed during industrial inspections. Violations of Ohio EPA's industrial stormwater permit, including illicit discharges, are documented and forwarded to Ohio EPA.

Measurable Goals
The following measurable goals have been established for this BMP:

- Enter results of industrial inspections into the tracking database for each industry inspected.
- Apply appropriate enforcement actions to eliminate potential pollution problems identified at industrial sites.
- Document and forward to Ohio EPA observed violations of Ohio EPA's industrial stormwater permit.

Evaluation Methods:
In the Annual Report, the City will present summaries from the industrial tracking databases documenting facilities that were inspected and any enforcement actions taken during the reporting period. Presentation of this information will be considered achievement of the measurable goals.

Responsible Department: Stormwater and Regulatory Management Section

7.4 Monitoring Industrial Sites

Required SWMP Component

Based on the reviews performed in Section 7.3, the City must monitor suspect industries within a particular watershed and if evidence of unpermitted discharges of stormwater pollution is present, the City must conduct sampling of the suspect industry or require the industry to perform such sampling. When sampling is done, the following parameters will be considered at a minimum:

- Any pollutant listed in the effluent limitations guidelines for the subcategory of the industry.
- Any pollutant that is controlled in an NPDES permit for the process discharge from the industrial site.
- Oil and grease, COD, pH, BOD_5, TSS, total phosphorous, total kjedahl nitrogen, nitrate plus nitrite, nitrogen and ammonia.
- Any pollutant known or suspected to be in the discharge from the industrial site.

7.4.1 BMP IF8 –Monitoring and Sampling of Industrial Sites

Rationale Statement

The City has developed an illicit discharge detection and elimination (IDDE) investigation procedure (See Section 4 of the City's Stormwater Management Plan), that includes industrial releases, to identify and eliminate illicit discharges to the City's storm sewer system. The measurable goals were selected to track implementation of this BMP in terms of response, review, and documentation for industrial site stormwater monitoring and sampling.

Description and Implementation Approach

The City defines "suspect industries" as any industry that exists within a watershed from which an illicit discharge containing constituents attributable to the industry's operations is discovered entering into the City's storm sewer system under the IDDE program or during industrial site inspections. Discharges from suspect industries are initially sampled under the IDDE program to verify the source and characterization of the discharge. Analyses are performed for the constituents required under the Permit.

The City will require monitoring of stormwater discharges by, and at the expense of, the facility owner/operator in instances where illicit discharges from the facility persist. The City also refers industries with persistent illicit discharges to Ohio EPA for further monitoring requirements.

Measurable Goals

The following measurable goals have been established for this BMP:

- Review annually for update, written procedures that identify constituents of concern and when industrial facilities are required to monitor stormwater discharges.

- Respond, when notified, to each instance of an industrial release per the established procedures.

- Review and file stormwater monitoring and sampling reports submitted by industrial operators.

Evaluation Methods
In the Annual Report, the City will present data on the City's response to industrial releases and monitoring and sampling data of industrial sites if such data was acquired during the reporting period. Responding to each industrial release notification and presenting information relative to the amount of monitoring data reviewed and filed will be considered achievement of the measurable goals.

Responsible Department: Stormwater and Regulatory Management Section

Section 8
Wet Weather Monitoring Program

Required SWMP Component
The City shall continue to implement an annual wet weather monitoring program to characterize stormwater discharges in accordance with the Permit.

8.1 BMP TM1 – Wet Weather Outfall Monitoring Program

Rationale Statement
In an effort to better understand and characterize constituent levels present in the City's MS4, an effort to measure constituent levels during rain events is required.

Description and Implementation Approach
To accomplish city-wide wet-weather monitoring tasks, the City continues to implement its wet weather sampling program. Three new sampling locations have been chosen for sampling during the current permit term. The following items detail the scope of this project.

8.1.1 Establish Outfall Monitoring Locations

The five outfall locations sampled under Permit 4PI00000*BD will be sampled during Year 1 of Permit 4PI00000*CD. In an effort to compare constituent levels in other watersheds, reduce influences of groundwater and backwater from impoundments, and reduce variability in watershed size, the city elected to sample three new outfall locations during Years 2 through 5 of Permit 4PI00000*CD. **Figure 8-1** shows each of the three sampling locations identified for sampling. Outfall monitoring locations for the three city-wide outfalls (**Table 8-1**) were selected to be representative of three different land uses common to Columbus.

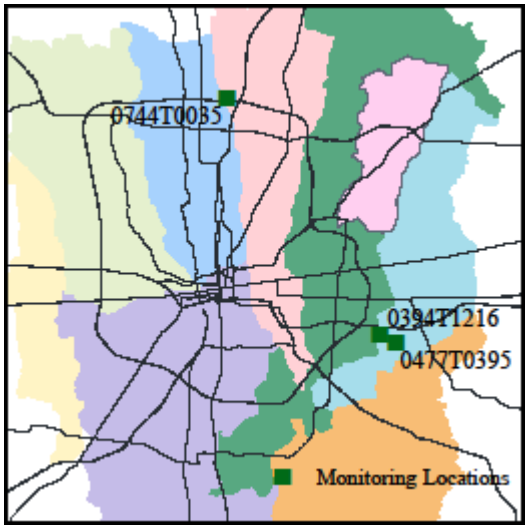


Figure 8-1. Wet-weather Sampling Locations

Table 8-1. Proposed Wet Weather Monitoring Location Summary

Outfall ID	Diameter (Inches)	Representative Land Use	Receiving Stream	Drainage Area (Acres)	Nearest Intersection
0394T1216	36	Commercial	Powell Ditch (Blacklick Creek)	15	Scarborough Blvd and Brice Rd
0744T0035	24	Industrial	Noble Run (Alum Creek)	16	Worthington-Galena Rd and Dearborn Rd
0477T0395	27	Residential	Powell Ditch (Blacklick Creek)	16	Arrowsmith Dr and Creighton Pl

The monitoring locations shown in Figure 8-1 have been field verified, but are subject to change. These monitoring locations will be reviewed on an ongoing basis and, if necessary, the City will relocate the wet-weather monitoring locations for the following conditions:

- The amount or depth of flow in the storm sewer system at the sampling point makes sample collection or flow monitoring impracticable.
- Presence of illicit discharge.
- Repeated vandalism of monitoring equipment at a sampling location.
- The City and/or Ohio EPA identify an alternative monitoring location.

8.1.2 Quality Assurance Project Plan

The Quality Assurance Project Plan (QAPP) broadly defines the wet-weather monitoring project management team and work tasks. The QAPP specifically states the project data generation and acquisition objectives; provides overview of project related QA/QC policies; and specifies the data validation methodologies to be utilized. The activities to be performed to complete the sampling, analytical, monitoring, and reporting tasks for this project are also include in the QAPP. The QAPP documents the results of the project's technical planning process; provides a clear, concise, and complete plan for task performance; identifies quality assurance/quality control objectives and procedures; and identifies the key project personnel responsible for performing each task.

8.1.3 Characterize Dry Weather Flow at Monitoring Stations

The purpose of this BMP is to characterize the constituents present in any dry weather discharges at the wet weather monitoring station locations through field screening. The findings of this BMP will be used to adjust sampling data that will be collected to represent wet weather events. An alternative monitoring site may be selected if the magnitude, frequency, and/or constituents

in the dry weather flow would significantly affect the findings of the wet weather flow characterization.

To characterize the constituents present in dry weather discharges, the three sampling locations will be field screened for the presence of dry weather flow. Dry weather flows are defined as discharges from stormwater outfalls that occur 72-hours or more after the end of a precipitation event.

The constituents present in dry weather flows will be characterized where applicable. At least one (1) dry weather sample will be collected from each outfall that was identified during field screening as having dry weather flow. Samples collected during dry weather flow events will be analyzed for the constituents listed in Section 4. The dry weather sampling data will be evaluated and a summary report characterizing the constituents observed in the dry weather samples will be prepared. The findings of the dry weather characterization report will be used to adjust sampling data that will be collected to represent wet weather events.

In instances where the occurrence of an illicit dry weather discharge (e.g. visible oil sheen, odor, color, etc.) is observed during field screening, the discharge will immediately be reported to the City's Stormwater and Regulatory Management Section at (614) 645-7102.

8.1.4 Wet Weather Monitoring

The purpose of this BMP is to collect the necessary water quality samples, precipitation information, and flow information required in the City's NPDES permit for each monitored storm sewer system.

Information Collection and Analyses

The following information will be collected, maintained in records, and reported for each wet weather event that is monitored at each of the three outfalls:

- Date and duration (in hours) for all storm event(s) sampled. City rainfall gages may be used to acquire this information.
- The rainfall measurements (in inches) of the storm event which generated each sampled runoff.
- The duration (in hours) between the storm event sampled and the end of the previous measurable storm event for all storm events that are sampled.
- Total runoff volumes (in gallons) of each discharge that is sampled.

Hydrologic and hydraulic analyses may be performed on the monitored storm sewer systems to accomplish this task and to demonstrate the water quantity and quality responses for each monitored storm sewer system. Such analyses may include, but are not limited to, the development of rating curves, land use analysis, and sewer system modeling.

Wet Weather Sample Collection
Wet weather samples will be collected from the three City-owned outfalls described above. The sampling frequency at these outfalls will be every quarter of the year to coincide with the winter, spring, summer, and fall seasons. In the instances where it is not possible to collect samples for seasonal characterization due to adverse climatic conditions, a written submission of why samples could not be collected, including documentation of the event, will be provided.

In instances where the occurrence of a wet weather discharge with visible evidence of non-stormwater discharges (e.g. visible oil sheen, odor, color, etc.) is observed during sampling, the discharge will be immediately reported to the City's Stormwater and Regulatory Management Section at (614) 645-7102.

8.1.5 Laboratory Analysis

The purpose of laboratory analysis is to determine the event mean concentration present in the water samples collected.

Constituents and Detection Limits for Samples Being Sent to City's Surveillance Laboratory
Table 8-2 lists the constituents and minimum detection limits for the water samples that will be delivered to the City's Surveillance Laboratory for analysis. Samples will be prepared for analysis and delivered to the following address:

City of Columbus
Surveillance Laboratory
1250 Fairwood Avenue
Columbus, Ohio 43206

Constituents and Minimum Detection Limits for Samples Being Sent to an Outside Laboratory
Table 8-3 lists the constituents and minimum detection limits for which the water samples will be delivered to an outside laboratory for analysis. The sampling results that are generated by the outside laboratory will be added to the City's LIMS system.

Table 8-2. Constituents for City Surveillance Lab Analysis

Constituent Name	Detection Limit
Alkalinity	1.2 mg/l
Hardness (as CaCO3)	1.7 mg/l
Total phosphorus	0.05 mg/l
Total suspended solids	1.0 mg/l
NH3	0.02 mg/l
Oil and grease	1.0 mg/l
pH	0.1
Temperature (c)	N/A
Dissolved oxygen	1.0 mg/l
Copper	0.00075 mg/l
Chromium	0.005 mg/l
Cadmium	0.00011 mg/l
Lead	0.00034 mg/l
Nickel	0.00055 mg/l
Zinc	0.001 mg/l
Total cyanide	0.002 mg/l

Table 8-3. Constituents for Outside Lab Analysis

Constituent Name	Detection Limit
Dissolved phosphorus (dissolved orthophosphate, filtered)	0.05 mg/l
Nitrite	0.05 mg/l
Fecal coliform	1 (#/100 ml)
E.coli	1 (#/100 ml)
5-day CBOD	2.0 mg/l
5-day BOD	1.0 mg/l
COD	1.0 mg/l

8.1.6 Laboratory and Flow Monitoring Data Evaluation and Report Preparation

Data evaluation and report preparation is needed to summarize the sampling, analyses and evaluation of data collected at the three outfall locations.

Data Comparison

If applicable, the findings from the dry weather characterization report will be used to adjust collected wet weather data. This will allow the constituent event mean concentrations for wet weather events to be accurately represented. Once adjusted, the wet weather monitoring data will be evaluated and the seasonal quality of stormwater discharges will be characterized. At a minimum, observed data from each of the three outfalls shall be compared to values generated during years prior at each of the locations as well as the respective values provided in the most current version of the National Stormwater Quality Database (NSQD).

City-Wide Report
The City will prepare and submit a report annually that summarizes the sampling, analysis, and evaluation of data collected at the three outfall locations. The report will include a summary of long term and short term trend analyses as well as the results of comparisons to the NSQD. The final monitoring report will be submitted to Ohio EPA in the City's Annual Report. Completion of the report will be considered achievement of the measurable goals.

Measurable Goals
The following measurable goals have been established for this BMP:

- Implement the Quality Assurance Project Plan.
- Perform quarterly sampling and laboratory analysis on samples collected from five (5) outfalls during Year 1 of the Permit.
- Perform quarterly sampling and laboratory analysis on samples collected from three (3) outfalls during Years 2 through 5 of the Permit.
- Prepare report annually that summarizes findings for outfall sampling.

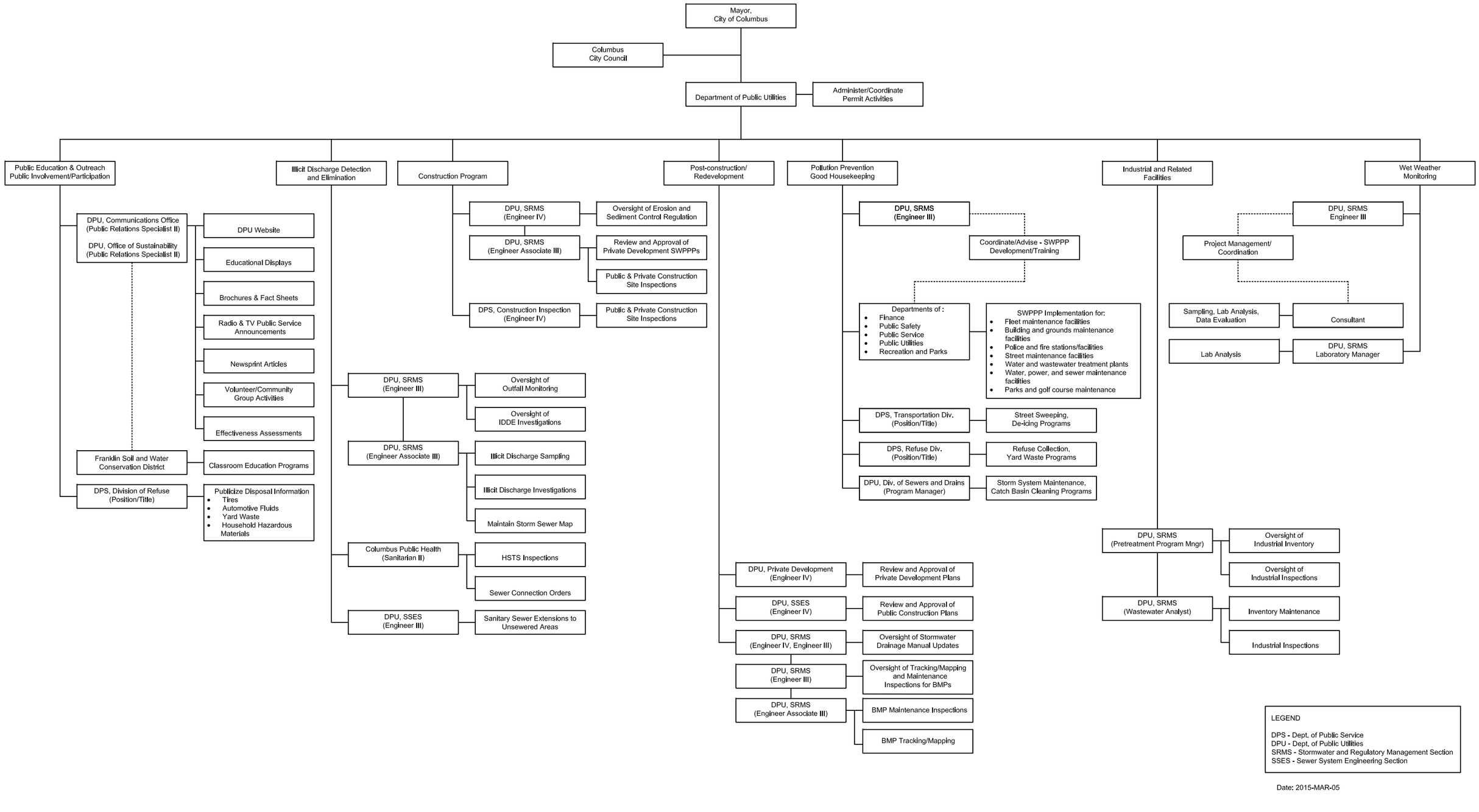
Evaluation Methods
The City will include within or submit with the Annual Report information with respect to monitoring locations, quality assurance procedures, dry weather and wet weather field screening and sampling analysis results, and summary language comparing constituent levels from the monitored outfalls to NSQD. Presentation of this information will be considered achievement of the measurable goals.

Responsible Department: Stormwater and Regulatory Management Section

Appendix A

City of Columbus
NPDES Stormwater Program

Table of Organization



Date: 2015-MAR-05

Appendix B

SPILL RESPONSE PROCEDURE
Standard Operation Procedure

Approved by: Tom Russell, Bob Ellinger (and Staff)	Date: 1/2/2007
Field Tested by:	Date:
Revised by: Jeff Cox	Date: 8/27/2014

PURPOSE

DOSD may be notified of illegal discharge or spill of prohibited substances into the collection system (Storm/Sanitary/Combined pipes, catch basins, inlets, etc.), onto the ground or directly into a waterway. This notification may originate from a resident, another City department, the fire department or Ohio Environmental Protection Agency (OEPA). The original problem may also be reported as an odor complaint which could be a result of an illegal discharge. Evidence of spills can also be observed during the course of performing repairs, power cleaning, televising or complaint response.

A Sewer Maintenance Operation Center (SMOC) crew is typically the first responder to any call that may be received through the SMOC dispatch office. The dispatched SMOC crew will attempt to identify the material, the source and if possible, contain the material. A spill onto the ground has the potential to reach the collection system, therefore must be contained, if at all possible.

The Industrial Waste Pretreatment Group (IWP) will be notified of any spill from an Industrial User or any spill that makes its way into the sanitary or combined system (See SOP for Request for Pretreatment Support). An Industrial User is required under their permit to contact IWP if they have a spill that has the potential to reach the DOSD collection system.

The Stormwater and Regulatory Management Section (SWMS), Illicit Discharge Detection and Elimination (IDDE) group is responsible for response to spills that are found in storm ditches, waterways or storm sewers.

The purpose of this procedure is to define who in DOSD should be contacted and respond to a report of a spill or illegal discharge. The IWP or IDDE groups may be called to assist the SMOC crews with investigations if the discharge or discharger can not be identified or if substantial effort is needed to contain the spill. If samples need to be taken to assist in enforcement action against a discharger, IWP or IDDE should also be notified. However, if the spill occurs after normal business hours and further assistance is NOT required, the SMOC crew will only need to forward the proper documentation and notification to the appropriate group.

This procedure is not intended for use in response to a sewage spill from the sanitary or combined system (SSO or CSO). Those procedures are discussed in the Overflow Emergency Response and Notification Plan (OERNP).

METHOD

During the course of a day, or after normal business hours (7:30am to 4:00pm) DOSD may receive a report of a spill or discharge (chemical, fuel, hazardous materials, etc) and will be asked to respond to help contain the material or trace the pipe network to identify the best place to contain the spill before it reaches a waterway. Depending on the type of spill, several Sections within DOSD are responsible for the response to a reported spill. However, SMOC crews are typically the first crews to respond.

It is the intent of DOSD crews to provide initial response and assist any other agency or department who are on-site. Depending on the situation, the local Fire Department or OEPA will assume the position of the lead authority at an incident site.

PROCEDURE

A. SMOC - Receipt of information regarding a spill.

1. The Dispatcher shall obtain all relevant information available regarding the spill, including:

    a. Time and date the call was received;
    b. Location of the spill;
    c. Description of the type material spilled;
    d. Estimated quantity of spill;
    e. Caller's name, address, and phone number;
    f. Receiving system if known – storm sewer, sanitary sewer, combined sewer, water body;
    g. Other relevant information that will enable the responding crews, if required, to quickly locate, assess and assist in containment of the spill.

B. SMOC – Notification Procedures

1. Dispatching Crews.

    a. Dispatchers receiving a report of a spill shall dispatch the appropriate SMOC crew to investigate.
    b. If the spill is confirmed, the investigating SMOC crew shall contact the Dispatcher and identify if the Fire Department, OEPA or representatives of other City departments or DOSD Sections are on-site or need to be called. The crew will provide the Dispatcher with any information regarding the spill.
    c. Based on what is reported by the crew on-site, the Dispatcher will notify the appropriate Emergency Contacts (*see phone numbers on attached* ***Emergency Contact List*** *in Appendix A*).
    Also see SPILL RESPONSE Flowchart for notification protocol.

        i. **Local Fire Department** – Spills of flammable, combustible or hazardous materials.

ii. **Ohio Environmental Protection Agency** – Spills that have the potential to reach a waterway or have already reached waters of the State. These include spills to the combined system during periods of rain.

NOTE: The Environmental Sheriff should be contacted if the discharge (or dumping) into waters of the State appears to be intentional and deliberate. Note that the Environmental Sheriff will respond only to criminal acts of discharge (e.g. deliberate dumping) into the sewer collection system or waters of the State.

iii. **Industrial Waste Pretreatment Group (IWP)** – Spills or discharges from a regulated Industrial User into a sanitary or combined sewer. IWP contacts may receive a report of a spill or slug discharge directly from an Industrial User.

NOTE: IWP will notify the appropriate Plant Manager of a spill to the collection system that has the potential to reach the plant.

iv. **Stormwater Section (SWMS)** – Spills or discharges into a storm sewer, conveyance or waterway. Any accidents or spills where fluids are lost onto the ground and have the potential to reach a storm sewer or waterway.
v. **Erosion and Sediment Control Inspectors (SWMS)** – Sediment-laden (muddy) water from construction activity being discharged into a sewer or a watercourse.
vi. **Division of Traffic** – A spill of non-combustible (diesel or oil) less than about 25 gallons. The spill may be soaked up with sand or absorbent and swept up.

If a spill is reported outside of normal working hours (7:30am to 4:00pm) and if the material is known, the source is identified, the material can be contained or if no further is assistance is needed, IWP and IDDE will not need to be notified. However, the proper documentation on the event should be forwarded to the appropriate group the following business day.

2. Once the Dispatcher has been updated on the situation, the SMOC crew on-site can continue to look for the source of the discharge, identify the potential outfall location to the environment or identify the best location for containment.

NOTE: The crew should attempt to contain the spill before it reaches the collection system, use absorbent booms or other material available to the crew.

3. Crew instructions and service requests.
    a. Response crews shall in all cases report their findings to their Supervisor immediately upon making their investigation.
    b. The Supervisor shall refer all pertinent information to the SMOC Technical Support group (Mike Foster).
    c. A City of Columbus SPILL RESPONSE form should be completed by the SMOC crew and forwarded to the Stormwater IDDE group.

d. The SMOC crew will forward a copy of the completed Service Request to IWP and IDDE.

4. Field Supervision and Inspection.
    a. The Supervisor of the crew who confirmed the spill shall visit the site of the spill to coordinate activities with the Fire Department, IDDE, IWP and/or OEPA.
    b. The Supervisor, at the direction of the Fire Department, IDDE, IWP and/or OEPA, shall make a determination whether the response crews should provide additional investigation or assist further with the containment of the spill.

C. Spill containment and clean up.
1. Initial activities for containment.
    a. Determine the immediate destination of the spill; e.g. storm drain, ditch, creek, sewer, etc.
    b. Response crews shall inform their Supervisor and the Fire Department of possible containment or isolation locations and will assist in containing the substance as directed by Supervisor.
    c. Under most circumstances spill clean up will be performed by private companies specializing in hazardous materials handling. Some small non-hazardous spills may be cleaned up by SMOC crews or the Division of Traffic.

D. Stormwater Illicit Discharge Detection and Elimination (IDDE) Response
1. Investigation:
    a. Dispatch a Stormwater investigator to the scene.
    b. Interview the individual who reported the discharge to determine the type and source of the spilled material if known.
    c. Check/Review the sewer atlas maps and major outfalls map for potential outfall location. If not already performed by the first responder, the Stormwater investigator will check the outfall to determine if the illicit discharge has reached the receiving stream. If the discharge has reached the stream, contact Ohio EPA at 1-800-282-9378. Provide containment at the outfall, if possible.
    d. Review of existing records and documentation for similar discharge occurrences.
    e. Perform in-pipe and in-stream tracking inspections including a manhole-to-manhole inspection.
    f. Perform testing of suspected sources once the manhole inspection has narrowed the outfall area to a single manhole. Suspected source testing may include smoke testing, dye testing or video camera inspection.
2. Response:
    a. Contain the spill and prevent it from entering storm sewer, if possible.
    b. If the spill has entered the storm sewer, set up containment in the storm line or at the outfall to prevent discharge from entering waterway.
    c. If the quantity of spilled material exceeds the capacity of the spill kit, is flammable or explosive, or if the material has impacted the City's Municipal Separate Storm Sewer System (MS4) Permit immediately contact the Fire Department's Haz-Mat Unit.

d. Collect evidence and physical data regarding the spill (pictures, field testing, and interviews).
e. Trace the spill to the responsible party if the evidence allows.
f. Notify appropriate personnel. If the spill enters a waterway, contact Ohio EPA. If SMOC cannot perform the clean up, contact the company who is currently under contract with the City to perform cleanup operations. (Environmental Enterprises Inc. (877) 683-7724)

NOTE: If the spill is less than the reportable quantity and has not reached the storm water conveyance system, clean-up is to be accomplished by the responsible party, if identified.

g. Complete Stormwater Program Investigative Report including an Illicit Discharge Investigation Form.
h. Follow-up, if required (e.g., to verify clean-up is completed or Remedial Action Plan implemented). Complete a Follow-up Investigation Form.
i. Enter documentation of incident into database for tracking and reporting.

E. Industrial Waste Pretreatment Response

See "Request for Pretreatment Support" SOP for IWP response procedures.

F. Cost Recovery.

1. Supervisors should track the number of crews, equipment, and the time spent on site associated with the response. These costs may be recoverable from the responsible party.
2. Under the revised Director's Rules, developed under the updated FOG Program, if the incident is less than four (4) hours in duration, and only requires minimal staff for incident response, the DOSD has the ability to charge a flat rate cost to the responsible party. If additional time and staff is needed, additional costs can be levied on the responsible party. Additionally, DOSD will consider recovery of cost for deliberate acts or those incidents that require significant effort to identify the source of discharge.

APPENDIX A – Contact Information

EMERGENCY CONTACTS
PRETREATMENT

IN THE EVENT OF THE FOLLOWING INCIDENTS:

- **Spill in sanitary sewer concerning industrial waste**
- **Illicit discharge into sanitary sewer**
- **Illicit connection to sanitary sewer**
- **Unusual substance (grease, paint, etc.) noticed in sanitary sewer by SMOC or contractor**
- **Accidental discharge to sanitary sewer**
- **24-hour notification of discharge from Industrial User**

In order of contact priority, please contact one of the following:

Office Staff	**Office**	**Cell**	**Home**
Jeff Bertacchi	645-5912		760-5854
Jim Carpenter	645-1942		
Chris Harper	645-0361		
Field Crew			
Fred Cunningham	645-0365	348-1584	
Jim Morrow	645-0368	348-1567	

If an emergency occurs during normal working hours call Jeff Bertacchi or Jim Carpenter. They will handle the crew notifications.

If an emergency occurs after normal working hours call Fred Cunningham first to get the crews notified and mobilized. Call Jeff Bertacchi second to inform him of the situation.

EMERGENCY CONTACTS
STORMWATER

IN THE EVENT OF THE FOLLOWING INCIDENTS:

- **Spill in storm sewer, conveyance or waterway**
- **Illicit discharge into storm sewers, conveyance or waterway**
- **Unusual substance seen in storm sewer, conveyance or waterway**
- **Accidents with loss of fluids**
- **Yard waste, trash, etc. in storm sewer, conveyance or waterway**
- **Materials, drums, garbage dumpsters, etc. stored in an area where there is potential for the substance to enter a storm sewer, conveyance or waterway**
- **Power washing operations discharging into storm sewer, conveyance or waterway**

In order of contact priority, please contact one of the following:

Office Staff	Office Phone	Cell Phone
Jeff Vesco	645-0362 or 724-3080	348-1618
Jeff Cox	645-8442	483-5257
Bob Lamb	645-0363	774-0647
Mike Merz	645-1943	496-3505
Bernard Conrad	645-1944	774-0648
Ben Harriff	645-7011	

EMERGENCY CONTACTS
EROSION AND SEDIMENT CONTROL PROGRAM

IN THE EVENT OF THE FOLLOWING INCIDENTS:

Sediment-laden (muddy) water from a construction site or activity is:

- **being discharged, pumped or released into a watercourse or body of water, or,**
- **being discharged, pumped or released directly or indirectly into a sanitary sewer (manhole), storm sewer (catch basin/curb inlet) or conveyance (swale/ditch) system.**

In order of contact priority, please contact one of the following:

Office Staff	Office Phone	Cell Phone
Paul Parsons	645-6700	774-0643
Alex Nudelman NE*	645-3124	774-0646
Myron Brown SW*	645-6308	774-0645
Norm Black SE*	645-5636	774-0642
Scott Walker NW*	645-5637	774-0656

* refers to the inspectors general area of the City quadrant

Appendix C

Appendix C
Organizations Contacted in Illicit Discharge Notifications

Stormwater	
Jeff Cox	645-8442
Jeff Vesco	**645-0362 or 724-3080**
Bernard Conrad	645-1944
Ben Harriff	645-7011
Bob Lamb	645-0363
Pretreatment	645-5876
Stormwater Cell Phone Numbers	774-0647, 774-0648 or 496-3505

In Event of Potable Water Discharge :

Leak Detection – Division of Water	
Call In Number	645-7788

In Event of Failing HSTS :

City of Columbus Health Department	
General Number	645-7417
Joe Harrod	645-0189 or 631-9030 (cell)
Kellli Dodd	645-6754 or 256-1433 (cell)
John Richter	645-5625

In Event of City Code Violation:

City of Columbus Code Enforcement	
General Number	645-8139

In Event of Hazardous Liquid or Traffic Control:

Columbus Police and Fire Departments	
Emergency Number	911
Non-Emergency Number	645-4545

In Event of Suspected Criminal Activity:

Franklin County Environmental Sheriff's Office	
Richard Thompson	525-3558
Radio Room	525-3333

In Event of Spill In MS4 or Waterway:

Ohio Environmental Protection Agency (OPEA)	
To Report a Spill	1-800-282-9378
Mike Dalton	728-3823 or 361-9030 (cell)
Rikki Kneir	728-3825 or 395-2129 (cell)
Chris Holmes	935-6564
Harry Kallipolitis	728-3844

In Event of Spill Clean-up Assistance:

Environmental Enterprises Inc.	877-683-7724
Brad Timmons	578-8136

Appendix D

THE CITY OF
COLUMBUS
MICHAEL B. COLEMAN, MAYOR

DEPARTMENT OF
PUBLIC UTILITIES

FREQUENTLY ASKED QUESTIONS

SEPTIC TANK ELIMINATION

LOAN PROGRAM

What is the Septic Tank Elimination Loan Program?

When a homeowner is required to connect to a city sanitary sewer, there are several expenses involved. These include fees to the city and paying a sewer contractor to remove the home's existing septic tank and install a connection to the city sewer. The City of Columbus has developed this no-interest loan program to assist the homeowner with these expenses.

Who is eligible?

- Owners of single-family or duplex houses that have an existing septic system and are located in the City of Columbus.
- The houses must be valued at less than $250,000 according to the county auditor's Web site.

What does the loan cover?

- Columbus will offer no-interest loans to cover the two potential costs to the homeowner:
    - The city will defer payment on fees that would otherwise have to be paid now. This includes the capacity fee ($3,044 is the 2013 rate) and the front footage fee ($45/per foot x the width of your lot).
    - Private plumbing costs up to $5,000. This includes the costs the homeowner must incur to hire a licensed sewer contractor to abandon the existing septic tank and put in a connection from the home to the sewer (private lateral).

When is the loan due?

When the property is sold, transferred or no longer used as a private home. No interest accrues during this time.

Does it cost anything to participate in the loan program?

Yes, there is an application fee of $2,000. If you qualify for the city's low income water and sewer discount program, this fee will be waived.

How do I apply?

- The homeowner must complete an application and submit the completed application to: Septic Tank Elimination Loan Program, Division of Sewerage and Drainage, 1250 Fairwood Avenue, Columbus, OH 43206.

- The homeowner must sign a promissory note for the loan amount, which will be secured by a mortgage on the house. The homeowner must sign the mortgage. The city will be responsible for filing the mortgage, which works like a lien on the property.
- The homeowner must select a private licensed sewer tapper to do the private plumbing work (remove septic tank and install lateral). The city, the homeowner and the sewer tapper must sign a three-party contract that will provide for the city to pay the sewer tapper up to $5,000 for this work.

What if I live in a county township?

This program is only for City of Columbus residents. If you want to participate, you must annex your property into Columbus. Please see the handout called “How to Annex Your Home” for details.

Where can I get more information?

Please call 645-6311 or visit www.utilities.columbus.gov.

Appendix E

Appendix E
Enforcement Action Schedule
Stormwater and Regulatory Management Section
September 30, 2013

Illicit Discharge Violations			
Characteristics of Discharged Material	**Nature of Discharge**	**Number of Occurrences***	**Enforcement Response**
Solid or viscous substance capable of causing obstruction of flow through the MS4 (i.e. yard waste, trash, grease, etc.) Non-hazardous, non-toxic, non-explosive fluids or solids (i.e. wash water, detergents, power washing, parking lot, street cleaning etc., except residential car washing) Construction discharges and refuse disposal (i.e. unauthorized in-stream activity, unfiltered by-pass pumping, diversion swales or key ways, saw cutting, construction debris, etc.)	Domestic	Initial	▪ Request for voluntary compliance ▪ Education materials
		2	▪ NOV ▪ Remedial Action Plan required ▪ Require violator to clean MS4 or be assessed for damages ▪ Administrative Fine - $250 (if discharge is determined to be non-accidental)
		3 or more	▪ Director's Order ▪ Require violator to clean MS4 or be assessed for damages ▪ Administrative Fine - $500 ▪ Recommendation for civil action by City Attorney's Office (CAO)
	Non-domestic, includes construction contractors	Initial	▪ Immediate cessation of discharge ▪ NOV ▪ Onsite consultation ▪ Require violator to clean MS4 or be assessed for damages ▪ Administrative Fine - $1,000 for pumping discharges from construction activities
		2	▪ Director's Order ▪ Require violator to clean MS4 or be assessed for damages ▪ Administrative Fine - $1000
		3 or more	▪ Director's Order ▪ Require violator to clean MS4 or assess for damages ▪ Administrative Fine - $1000 ▪ Recommendation for civil action by CAO

Illicit Discharge Violations			
Characteristics of Discharged Material	**Nature of Discharge**	**Number of Occurrences***	**Enforcement Response**
Discharge of sanitary, hazardous, toxic, or explosive substances (i.e. automotive fluids, paints, solvents, degreasers, petroleum products, etc.)	Domestic	Initial	▪ NOV ▪ Remedial Action Plan required ▪ Education materials ▪ Require violator to clean MS4 or assess for damages ▪ Administrative Fine - $500 (if discharge is determined to be non-accidental)
		2	▪ Director's Order ▪ Require violator to clean MS4 or assess for damages ▪ Administrative Fine - $1000
		3 or more	▪ Administrative Fine - $1000 ▪ Recommendation for civil action by CAO
	Non-domestic	Initial	▪ Immediate cessation of discharge ▪ NOV ▪ Remedial Action Plan required ▪ Education materials ▪ Require violator to clean MS4 or assess for damages ▪ Administrative Fine - $1,000 (if discharge is determined to be non-accidental)
		2 or more	▪ Director's Order ▪ Require violator to clean MS4 or assess for damages ▪ Administrative Fine - $1000 ▪ Recommendation for civil action by CAO

BMP Maintenance Violations			
Nature of Violation	**Applicability**	**Number of Occurrences***	**Enforcement Response**
Failure to install or maintain Best Management Practices (BMPs) per approved plans Construction BMPs include but are not limited to: Stabilized construction entrances, inlet protection, sediment basins, traps and risers, diversion swales, ditch-checks, jute matting, geo-textiles, composition berms, fabric (silt) fence, seeding, straw, mulch, sod, by-pass pumping, or street cleaning Post-construction BMPs include but are not limited to: detention ponds, constructed wetlands, swales, filter strips, bioretention facilities, pervious pavement, green roofs, proprietary water quality devices, and rainwater harvesting systems	▪ Construction site disturbances of one acre or less ▪ Post-construction BMP maintenance	Initial	▪ Request for voluntary compliance ▪ Mandate timeframe to correct deficiencies
		2	▪ Notice of Violation (NOV) ▪ Remedial Action Plan required ▪ Require violator to install and/or maintain BMPs as directed ▪ Administrative Fine – $250
		3 or more	▪ Director's Order ▪ Require meeting between violator and City personnel ▪ Administrative Fine – $1,000 per day until in compliance ▪ Recommendation for civil action by the City Attorney's Office (CAO)
	▪ Construction site disturbances of more than one acre	Initial	▪ Request for voluntary compliance per Construction Inspection Report (CIR) ▪ Mandate timeframe to correct deficiencies
		2	▪ Notice of Violation ▪ Require violator to install and/or maintain requested items per CIR or NOV ▪ Provide letter of explanation and corrective action to be taken (RAP) ▪ Administrative Fine – $1,000

BMP Maintenance Violations			
Nature of Violation	**Applicability**	**Number of Occurrences***	**Enforcement Response**
		3 or more	▪ Director's Order ▪ Require meeting between violator and City personnel ▪ Administrative Fine ▪ $1,000 per day until in compliance ▪ Recommendation for civil action by CAO

<table>
<tr><th colspan="3">Program Violations</th></tr>
<tr><th>Violation Type</th><th>Number of Occurrences*</th><th>Enforcement Action</th></tr>
<tr><td>Failure to provide NOI or submit SWPPP for land disturbances greater than one acre</td><td>N/A</td><td>▪ Immediate cessation of activity
▪ NOV (or Director’s Order)
▪ SWPPP required
▪ Education materials
▪ Require violator to clean MS4 or assess for damages
▪ Administrative Fine - $500</td></tr>
<tr><td rowspan="3">Failure to submit post-construction BMP annual inspection/maintenance report</td><td>Initial</td><td>▪ Request for Voluntary Compliance
▪ Mandate timeframe to submit report
▪ Send copies of inspection forms and Stormwater Drainage Manual maintenance requirements to BMP owner, if needed</td></tr>
<tr><td>2</td><td>▪ Notice of Violation (NOV)
▪ Remedial Action Plan required
▪ Require maintenance report to be submitted within 10 days</td></tr>
<tr><td>3</td><td>▪ Director’s Order
▪ Administrative Fine - $250</td></tr>
<tr><td></td><td>4 or more</td><td>▪ Administrative Fine - $500</td></tr>
<tr><td>Failure to comply with removing contaminants from tributary area or MS4 when directed</td><td colspan="2">▪ Notice of Continued Violation
▪ Administrative Fine - $500</td></tr>
<tr><td rowspan="8">RAP not submitted within 10 days from NOV date or failure to comply with requirements and/or schedule presented in RAP</td><td colspan="2">Notice of Continued Violation</td></tr>
<tr><td colspan="2">Administrative Fine Amounts</td></tr>
<tr><td>1</td><td>-0-</td></tr>
<tr><td>2</td><td>$250</td></tr>
<tr><td>3</td><td>$500</td></tr>
<tr><td>4</td><td>$750</td></tr>
<tr><td>5</td><td>$1000</td></tr>
<tr><td>6</td><td>Escalated enforcement determined by SWMS</td></tr>
</table>

A technical violation and program violation of a related event may appear on the same NOV or NOCV.

*Number of occurrences will accumulate until responsible party is compliant for three (3) consecutive years from the date the most recent violation occurred.

Appendix F

Ohio Environmental Protection Agency

Storm Water Pollution Prevention Plan (SWP3) Checklist for Construction Activities (OHC000003)

Facility Name:	**Date SWP3 Received:**
SWP3 Reviewer:	**Date SWP3 Reviewed:**

Part III.G.1 - Site Description				
Does the SWP3…..	**Y**	**N**	**N/A**	**Comments**
(a) describe the nature and type of construction activity (e.g., low density residential, shopping mall, highway, etc.)?				
(b) describe the total area of the site that is expected to be disturbed (i.e., the area of grubbing, clearing, excavating, filling, or grading including off-site borrow areas)?				
(c) include a calculation of the runoff coefficients for both the pre-construction and post-construction site conditions?				
(d) include an estimation of the impervious area and percent imperviousness as a result of the construction activity?				
(e) include any existing data describing the soil? *NOTE: If this data is not available, it does not need to be included.*				
provide any information on the quality of the storm water discharge from the construction site? *NOTE: If this data is not available, it does not need to be included.*				
(f) include any information about prior land uses at the site (e.g., was the property used to manage solid or hazardous waste)?				
(g) include an implementation schedule which describes the sequence of major construction operations (i.e., grubbing, excavating, grading, utilities and infrastructure installation) and the implementation of erosion, sediment and storm water management practices or facilities to be employed during each operation of the sequence?				
(h) include the name(s) or location(s) of the initial and subsequent surface water bodies receiving the storm water discharge?				
include the areal extent and description of the wetland or other special aquatic sites which will be disturbed and/or will receive the storm water discharges?				
(i) include a detail drawing of a typical individual lot with shown sediment and erosion controls for construction sites with no centralized sediment controls (e.g., a sediment settling pond or inlet protection), which receives drainage from multiple lots?				
(j) include the location and description of storm water discharges associated with dedicated asphalt and/or concrete batch plants covered by the NPDES construction storm water general permit?				
(k) include a copy of the NPDES construction storm water general permit?				
(l) include a cover page identifying the name and location of the site, the name and contact information for site operators and SWP3 authorization agents as well as preparation date, start date, and completion date?				
(m) include a modification log to be updated in the field?				

Part III.G.1.l - Site Map Requirements				
Does the SWP3 site map…..	**Y**	**N**	**N/A**	**Comments**
(1) describe the limits of earth-disturbing activity of the site including associated off-site borrow or spoil areas that are not addressed by a separate NOI and associated SWP3?				
(2) describe the soils types depicted for all areas of the site, including locations of unstable or highly erodible soils?				
(3) show existing and proposed contours to delineate drainage watersheds expected during and after major grading activities as well as the size of each drainage watershed, in acres?				
(4) show surface water locations including springs, wetlands, streams, lakes, water wells, etc., on or within 200 feet of the site, including the boundaries of wetlands or stream channels and first subsequent named receiving water(s) the permittee intends to fill or relocate for which the permittee is seeking approval from the Army Corps of Engineers and/or Ohio EPA?				
(5) include the location of existing and planned buildings, roads, parking facilities, and utilities?				
(6) include the location of all erosion and sediment control practices, including the location of areas likely to require temporary stabilization during the course of site development?				
(7) include the location of sediment and storm water management basins noting their sediment settling volume and contributing drainage area?				
(8) include the location of permanent storm water management practices to be used to control pollutants in storm water after construction operations have been completed?				
(9) include areas designated for the storage or disposal of solid, sanitary, and toxic wastes (including dumpster areas), areas designated for cement truck washout, and areas for vehicle fueling?				
(10) include the location of designated construction entrances where the vehicles will access the construction site?				
(11) include the location of any in-stream activities including stream crossings?				

Part III.G.2 - Sediment & Erosion Controls				
(a) Non-Structural Preservation Methods	**Y**	**N**	**N/A**	**Comments**
(1) Has every effort been made to preserve the natural riparian setback adjacent to streams or other surface water bodies?				
(2) Have efforts been made to phase in construction activities in order to minimize the amount of land disturbance at one time?				
(3) Will any portions of the site be left undisturbed (e.g., tree preservation areas)?				
(b) Erosion Controls	**Y**	**N**	**N/A**	**Comments**
(1) Does the SWP3 describe the control practices used to restabilize areas after grubbing or construction?				
(2) Does the SWP3 specify the types of stabilization measures to be employed for any time of the year?				
(b)(2)(i) Temporary Stabilization	**Y**	**N**	**N/A**	**Comments**
For disturbed areas within 50 feet of a stream remaining dormant for over 21 days, will temporary erosion controls be applied within 2 days?				

For disturbed areas over 50 feet away from a stream remaining dormant for over 21 days, will temporary erosion controls be applied within 7 days?				
For disturbed areas that will be left idle over winter, will temporary erosion controls be applied prior to onset of winter weather?				
(b)(2)(i) Permanent Stabilization	**Y**	**N**	**N/A**	**Comments**
For disturbed areas within 50 feet of a stream at final grade, will permanent erosion controls be applied within 2 days of reaching final grade?				
For disturbed areas remaining dormant for over 1 year or at final grade, will permanent erosion controls be applied within 7 days?				
(c) Runoff Control Practices	**Y**	**N**	**N/A**	**Comments**
(1) Does the SWP3 incorporate measures to reduce flow rates (e.g., riprap, ditch check dams)?				
(2) Does the SWP3 incorporate measures to divert concentrated flow (e.g., pipe slope drains)?				
(d) Sediment Control Practices	**Y**	**N**	**N/A**	**Comments**
(1) Will sediment control devices be implemented for all areas remaining disturbed for over 14 days?				
(2) Are detail drawings of the sediment controls to be used included in the SWP3?				
(d)(i) Timing of Installing Sediment Controls	**Y**	**N**	**N/A**	**Comments**
Does the SWP3 specify that sediment controls will be installed/implemented within 7 days of grubbing activities?				
Does the SWP3 propose alternate sediment controls for the changing slopes and topography?				
(d)(ii) Sediment Settling Ponds	**Y**	**N**	**N/A**	**Comments**
Does the SWP3 include the installation and use of a sediment settling pond? *NOTE: Sediment settling ponds are required for all drainage areas of 10 or more acres of land disturbed at one time, when there is concentrated runoff (storm sewer or ditch), or when the design capacity of silt fence or inlet protection has been exceeded.*				
For construction activities that require sediment settling pond(s), does the SWP3 propose to implement alternative controls to sediment settling ponds? *NOTE: Alternative controls must be equivalent in effectiveness to a sediment settling pond.*				
Is the dewatering volume of the sediment settling pond sized to receive at least 67 cubic yards (1800 cubic feet) of storm water per acre of total drainage area?				
Is the maximum depth of each sediment settling pond less than or equal to 5 feet?				
Will the dewatering volume drain down time in between 48 hours and 72 hours?				
Will the first half of the dewatering volume drain in no less than one-third of the total drain time?				
Does the dewatering device (e.g., a skimmer) meet the design standards of Ohio's Rainwater and Land Development Manual?				
Is the sediment storage zone volume of the pond at least 1000 cubic feet per disturbed acre (Method 1)?				
If not, was RUSLE method (Method 2) used to calculate the sediment storage zone volume?				
Is the length to width ratio of the sediment settling pond at least				

two units of length for every one unit of width (> 2:1 length to width)? *NOTE: The greater the distance from the storm water inlet into the pond to the storm water outlet, the greater likelihood of sediment settlement. This prevents short-circuiting of the pond.*				
Will the sediment storage zone of the pond be cleaned out when the silt occupies 40 percent of the sediment storage zone (approximately one-half of the sediment storage zone depth)?				
Is the sediment settling pond designed to consider public (i.e., child) safety where site limitations preclude a safe design?				
(d)(iii) Silt Fence & Other Diversions	**Y**	**N**	**N/A**	**Comments**
Will silt fence or other diversions be used to control sheet flow?				
Will silt fence be used in areas of steep slopes or concentrated flow? *NOTE: Silt fence is not permitted to be used for controlling high velocity storm water flow (only sheet flow).*				

Design Capacity of Silt Fence

Maximum drainage area (in acres) to 100 linear feet of silt fence	Range of slope for a particular drainage area (in percent)
0.5	< 2%
0.25	≥ 2% but < 20%
0.125	≥ 20% but < 50%

(d)(iv) Inlet Protection	**Y**	**N**	**N/A**	**Comments**
Will the field drain inlets and/or the street curb inlets drain into a sediment settling pond or directly to surface waters of the state? *NOTE: Inlet protection is mandatory where sediment settling ponds will not be implemented.*				
Do any inlets not connected to a sediment settling pond receive runoff from one or more acres?				
Does the inlet protection meet the standards of Ohio's Rainwater and Land Development Manual?				
(d)(v) Stream Protection	**Y**	**N**	**N/A**	**Comments**
Does the SWP3 propose to use any structural sediment controls in a stream? *NOTE: Use of structural sediment controls in-stream is prohibited in accordance with Part III.G.2.d.v.*				
For construction activities that are on the stream bank or will involve stream crossing, does the SWP3 include measures to minimize the number of stream crossings and/or the width of disturbance? *NOTE: If work along a stream bank is necessary, a non-erodible pad or non-erodible stream diversion dams (sand bags) must be installed. If stream crossings are necessary, a non-erodible stream crossing must be installed.*				

Part III.G.2.e – Post-Construction Storm Water Management				
	Y	**N**	**N/A**	**Comments**
Does the SWP3 include the installation of a structural post-construction best management practice (BMP) to manage storm water runoff once construction activities have been completed?				

Will the construction activity result in the installation of any impervious surface? *NOTE: Projects that do not result in the installation of impervious surface do not require the installation of post-construction BMPs.*				
Has a long-term maintenance plan been developed or included in the SWP3 for maintenance of the structural post-construction BMP? *NOTE: The long-term maintenance plan must be developed and provided to the post-construction site operator, but does not need to be implemented as required by this permit. Local municipalities may require maintenance plan implementation.*				
Is the construction activity a linear project (e.g., pipeline or utility line installation) that does not result in the installation of impervious surface? *NOTE: Linear projects that don't result in the installation of impervious surface do not need the installation of structural post-construction BMPs.*				
Large Construction Activities (≥ 5 Acres)	**Y**	**N**	**N/A**	**Comments**
Does the SWP3 include a structural post-construction BMP with a specified volume and drain time?				
If so, was one of the two methods proposed in the NPDES construction storm water general permit (CGP) used to determine the water quality volume (WQv) and drain time?				
If the formula described in the CGP was used to calculate the WQv, were the correct values used for:				
(a) runoff coefficient (C)?				
(b) precipitation depth (P = 0.75-inches)?				
(c) and the drainage area (A) to the BMP?				
If the structural post-construction BMP will be used for sediment storage and/or has a reduced infiltration capacity, was the WQv increased by an additional 20 percent ("fudge factor")?				
Does the drain time in the SWP3 for the proposed structural post-construction BMP match the drain time for the selected BMP in the table below?				

Target Drain Times for Structural Post-Construction BMPs

Best Management Practice	Drain Time of WQv
Infiltration Basin	24-48 hours
Enhanced Water Quality Swale	24 hours
Dry Extended Detention Basin*	48 hours
Wet Extended Detention Basin**	24 hours
Constructed Wetland (above permanent pool)[+]	24 hours
Sand & Other Media Filtration	40 hours
Bioretention Cell[^]	40 hours
Pocket Wetland[#]	24 hours
Vegetated Filter Strip	24 hours

* Dry basins must include forebay and micropool each sized at 10% of the WQv

** Provide both a permanent pool and an EDv above the permanent pool, each sized at 0.75 * WQv

[+] Extended detention shall be provided for the full WQv above the permanent water pool.

^ The WQv shall completely infiltrate within 48 hours so there is no standing or residual water in the BMP.

[#] Pocket wetlands must have a wet pool equal to the WQv, with 25% of the WQv in a pool and 75% in marshes. The EDv above the permanent pool must be equal to the WQv.

Large Construction Activities (Continued)	Y	N	N/A	Comments
If the SWP3 proposes to use an alternative BMP instead of one of the BMPs listed in the table above, is the alternative BMP equivalent in effectiveness to the BMPs listed above?				
Is there a pre-existing drainage basin or other BMP that will receive the storm water drainage from the construction site, is it sized appropriately to treat the WQv?				
For public road construction activities, are the post-construction BMPs designed consistent with the Ohio Department of Transportation's "Location and Design Manual, Volume Two?"				
For construction activities where a post-construction BMP cannot be placed onsite and will require an offsite post-construction BMP, has the offsite mitigation proposal been authorized by Ohio EPA? *NOTE: Offsite BMPs must have a long-term maintenance agreement, be within the same HUC, and be at least 1.5 times the size of an onsite BMP.*				
For redevelopment projects which disturb 5 or more acres of land, was one of the following options used to as a post-construction practice:				
(a) 20% reduction in impervious area?				
(b) a BMP sized to treat 20% of the WQv?				
(c) or a combination of (a) and (b) above?				
For construction activities where non-structural post-construction BMPs are proposed, has the substitution of structural BMPs with non-structural BMPs been authorized?				
For construction activities where alternative post-construction BMPs are proposed, has the alternative BMP been authorized by Ohio EPA? *NOTE: Alternative BMPs must have TARP Tier II acceptance, be able to remove 80% of total suspended solids (TSS) in the runoff, and be able to treat the WQv unless hydrologic impacts are not necessary.*				
Has the local municipality authorized the use of an alternative post-construction BMP?				
Small Construction Activities (≥ 1 Acre, but < 5 Acres)	**Y**	**N**	**N/A**	**Comments**
Does the SWP3 include a structural post-construction BMP? *NOTE: A structural post-construction BMP is required for small construction activities, but the design standards have not been specified in the CGP*.				
(i) If so, does the SWP3 explain the technical basis used to select the BMPs chosen where flows exceed pre-development levels?				
(ii) Does the SWP3 include the installation of velocity dissipation devices at discharge locations and outfall channels?				

Part III.G.2.f - Surface Water Protection				
	Y	**N**	**N/A**	**Comments**
Does the construction site contain any streams, rivers, lakes, or wetlands?				
If so, has the U.S. Army Corps of Engineers been contacted for a determination of impacts requiring Clean Water Act 401 or 404 permitting?				

For storm water discharges from BMPs into wetlands, have BMPs (e.g., level spreaders, buffers, or infiltration basins) been proposed to diffuse the concentrated flow into non-erosive flow?				

Part III.G.2.g - Non-Sediment Pollutant Controls				
Handling of Toxic or Hazardous Materials	**Y**	**N**	**N/A**	**Comments**
(1) Does the SWP3 provide directions on how to dispose toxic or hazardous wastes properly?				
(2) Does the SWP3 provide areas for recycling of used or unused hazardous materials? *NOTE: No toxic or hazardous wastes shall be disposed into storm drains, septic tanks, or by burying, burning, or mixing the wastes.*				
Waste Disposal	**Y**	**N**	**N/A**	**Comments**
Will containers (e.g., dumpsters, drums) be available for disposal of debris, trash, hazardous or petroleum wastes? *NOTE: All containers must be covered and leak-proof.*				
Clean Hard Fill	**Y**	**N**	**N/A**	**Comments**
(1) Are bricks, hardened concrete, and soil waste free from contamination which may leach constituents to waters of the state?				
(2) If clean construction wastes will be disposed into the property, are there any local prohibitions from this type of disposal?				
Construction & Demolition Debris	**Y**	**N**	**N/A**	**Comments**
Does the SWP3 state that all construction & demolition debris (C&DD) waste will be disposed of in an Ohio EPA approved C&DD landfill as required by Ohio Revised Code (ORC) 3714? *NOTE: Construction debris may be disposed of on-site, but demolition debris must be disposed in an Ohio EPA approved landfill. Materials which contain asbestos must comply with air pollution regulations (see Ohio Administrative Code 3745-20).*				
Construction Chemical Compounds	**Y**	**N**	**N/A**	**Comments**
(1) Does the SWP3 designate areas used for mixing or storage of compounds such as fertilizers, lime, asphalt, or concrete?				
(2) If so, are these areas located away from watercourses, drainage ditches, field drains, or other storm water drainage areas?				
Equipment Fueling & Maintenance	**Y**	**N**	**N/A**	**Comments**
(1) Does the SWP3 designate areas used for fueling or performing vehicle maintenance?				
(2) If so, are these areas located away from watercourses, drainage ditches, field drains, or other storm water drainage areas?				
(3) Has a spill prevention control and countermeasures (SPCC) plan been developed? *NOTE: A SPCC plan must be developed for sites with one above ground storage tank (AST) of 660 gallons or more, total above ground tank storage of 1330 gallons, or below ground storage of 42,000 gallons of fuel.*				
Concrete Wash Waters	**Y**	**N**	**N/A**	**Comments**
(1) Does the SWP3 designate areas used for receiving concrete chute or other concrete wash waters?				
(2) If so, are these areas located away from watercourses, drainage ditches, field drains, or other drainage areas?				

Trench & Ground Water Control	**Y**	**N**	**N/A**	**Comments**
Does the construction site have an onsite trench or pond that must be dewatered?				
If so, does the SWP3 call for the discharge of potentially turbid water through a filter bag, sump pit, or other sediment removal device?				
Contaminated Soils	**Y**	**N**	**N/A**	**Comments**
Does the SWP3 address proper handling and disposal of soils contaminated by petroleum or other chemical spills? *NOTE: All contaminated soils must be treated and/or disposed in Ohio EPA approved solid waste management facilities or hazardous waste treatment, storage or disposal facilities (TSDFs).*				
If the facility contains contaminated soil, which of the following practices will be used to prevent contamination from being released?				
(1) The use of berms, trenches, and pits to collect contaminated runoff and prevent discharges				
(2) Pumping runoff into a sanitary sewer (with prior approval of the sanitary sewer operator) or into a container for transport to an appropriate treatment/disposal facility				
(3) Covering areas of contamination with tarps or other methods that prevent storm water from coming into contact with the material				
Spill Reporting Requirements	**Y**	**N**	**N/A**	**Comments**
(1) Does the SWP3 describe what to do in the event of a small release (less than 25 gallons) of petroleum waste? *NOTE: Petroleum based and concrete curing compounds must have special handling procedures.*				
(2) Does the SWP3 describe what to do in the event of a larger release (25 or more gallons) of petroleum waste? *NOTE: You must contact, Ohio EPA (at 1-800-282-9378), the local fire department, and the local emergency planning committee (LEPC) within 30 minutes of a spill of 25 or more gallons.*				
Open Burning	**Y**	**N**	**N/A**	**Comments**
(1) Is open burning performed in a restricted area (as defined in OAC 3745-19)? *NOTE: Open burning is permitted in restricted areas for barbeques, heating, and certain occupational purposes.*				
(2) Is open burning performed in a non-restricted area, but within 1,000 feet of an inhabited building away from the property? *NOTE: Open burning in an unrestricted area is limited to scrap lumber, wooden fence posts, agricultural, land-clearing, or landscape wastes.*				
Dust Controls/Suppressants	**Y**	**N**	**N/A**	**Comments**
(1) Are dust suppressants proposed to be used in the SWP3?				
(2) If so, are the areas which the dust suppressant will be applied located near catch basins for storm sewers or other drainage ways? *NOTE: Used oil may not be used as a dust suppressant.*				
Air Permitting Requirements	**Y**	**N**	**N/A**	**Comments**
(1) Have appropriate measures been taken to ensure that all air pollution permits have been obtained? *NOTE: Air pollution permits may be required for activities including, but not limited to, mobile concrete batch plants, mobile asphalt plants, concrete*				

crushers, and large generators.				
(2) For restoration or demolition projects, will a notification be submitted to Ohio EPA, Division of Air Pollution Control to determine if asbestos corrective actions are required?				
Process Wastewater/Leachate Management	**Y**	**N**	**N/A**	**Comments**
Will all process wastewaters (e.g., equipment washing, leachate associated with on-site waste disposal, and concrete wash-outs) be collected and disposed of properly (e.g., to a publicly-owned treatment works)? *NOTE: The NPDES construction storm water general permit only authorizes the discharge of storm water and certain uncontaminated non-storm waters. The discharge of non-storm waters to waters of the state may be in violation of local, state, and federal laws or regulations.*				
Additional Concerns	**Y**	**N**	**N/A**	**Comments**
For construction activities involving the installation and/or replacement of a centralized sanitary system, (including sewer extensions) or a sewerage system (except those serving one, two, and three family dwellings) and potable water lines, was a PTI application submitted to Ohio EPA? *NOTE: Coverage under the NPDES construction storm water general permit does not alone authorize the installation of such sanitary sewerage systems or potable water lines.*				
Does the SWP3 include measures for implementing good housekeeping practices?				
Does the SWP3 promote the use of protected storage areas for industrial or construction materials to minimize exposure of such materials to storm water?				

Part III.G.2.i - Inspections				
	Y	**N**	**N/A**	**Comments**
Does the SWP3 require weekly inspections of BMPs and an inspection within 24 hours after every rain event of 0.5 inches within a 24 hour period?				
If the site will be dormant for a long period, it's stabilized, and less frequent inspections are desired, does the SWP3 call for a waiver request to be submitted to OEPA for a reduction to monthly inspections?				
Does the SWP3 state that only "qualified inspection personnel" will perform the inspections?				
Does the SWP3 state that an inspection checklist will be completed and signed by the inspector after every inspection?				
Does the SWP3 state that inspection records will be kept for 3 years after termination of construction activities?				
For BMPS that require repair or maintenance, does the SWP3 specify non-sediment pond BMPs to be repaired within 3 days of inspection and sediment ponds to be repaired or cleaned out within 10 days of inspection?				
For BMPs not meeting the intended function, does the SWP3 state that a new BMP will be installed within 10 days of the inspection?				
For missing BMPs required for installation by the SWP3, does the SWP3 state that the missing BMPs will be installed within 10 days of the inspection?				

Appendix G

Appendix G
Example Construction Site Inspection Tracking Spreadsheet

	Plan Title	Plan No.	Eng. Co.	Watershed	Contact Phone #	Date	In	PM	Acres Disturbed
1									
2									
3									
4									
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Appendix H

BG1 – Buildings and Grounds Maintenance

Objectives

- Cover
- Contain
- Educate
- Reduce/Minimize
- Product Substitution

Targeted Constituents

- Sediments
- Paint
- Solvents
- Detergents
- Construction Debris

Description

Stormwater runoff from building and grounds maintenance activities can be contaminated with toxic hydrocarbons in solvents, fertilizers and pesticides, suspended solids, heavy metals, and abnormal pH. Utilizing the following protocols will prevent or reduce the discharge of pollutants to stormwater from building and grounds maintenance activities by washing and cleaning up with as little water as possible, following good landscape management practices, preventing and cleaning up spills immediately, keeping debris from entering the storm drains, and maintaining the stormwater collection system.

Revised: 11/8/13

Buildings and Grounds Maintenance BG1

Inspection Checklist:

Review all Pollution Prevention Practices and place a "√" in the box (Yes or No) to indicate whether each practice is being implemented.

Name of Inspector: _____ Date of Inspection: _____

BG1 – Buildings and Grounds Maintenance Pollution Prevention Practices	Practice Performed?		State reason if practice is not being performed
	Yes	No	
Indoor Facility Cleaning			
1. Use/prepare only enough cleaning solution to do the job.			
2. Mix/handle cleaning solutions indoors and away from storm sewer inlets.			
3. Dispose of all excess cleaning solutions into the sanitary sewer. **DO NOT DUMP CLEANING SOLUTIONS INTO THE STORM SEWER SYSTEM.**			
4. Dispose of all wastewater from cleaning activities into the sanitary sewer. **DO NOT DUMP CLEANING SOLUTIONS INTO THE STORM SEWER SYSTEM.**			
Outdoor Pressure Washing/Spraying			

BG1 – Buildings and Grounds Maintenance Pollution Prevention Practices	Practice Performed?		State reason if practice is not being performed
	Yes	No	
5. Use a wastewater collection device that enables collection of wash water and associated solids.			
6. Dispose of collected wash water containing soap/detergents during into the sanitary sewer.			
7. Collected wash water that **does not** contain soap/detergents may be discharged into a grass or other landscaped area.			
Irrigation Activities			
8. Check irrigation schedules so pesticides will not be washed away into the storm sewer system.			
9. Inspect irrigation system periodically to ensure that excessive runoff is not occurring.			
Building Repair, Remodeling, and Construction			
10. Do not dump any toxic substance or liquid waste on the pavement, the ground, or toward a storm drain.			
11. Use ground or drop cloths underneath outdoor painting, scraping, and sandblasting work, and properly dispose of collected material daily.			

BG1 – Buildings and Grounds Maintenance Pollution Prevention Practices	Practice Performed?		State reason if practice is not being performed
	Yes	No	
12. Use a ground cloth or oversized tub for activities such as paint mixing and tool cleaning.			
13. Clean paint brushes and tools covered with water-based paints in sinks connected to sanitary sewers or in portable containers that can be dumped into a sanitary sewer drain. **DO NOT DISCHARGE INTO STORM SEWER.**			
14. Brushes and tools covered with non-water-based paints, finishes, or other materials must be cleaned in a manner that enables collection of used solvents (e.g., paint thinner, turpentine, etc.) for recycling or proper disposal. **DO NOT DISCHARGE INTO STORM SEWER.**			
15. Use a storm drain cover, filter fabric, or similarly effective runoff control mechanism if dust, grit, or other solid pollutants may escape the work area and enter a catch basin.			
Fire Sprinkler Line Flushing			
16. Dispose of fire sprinkler line flush water into the sanitary sewer. Do not allow discharge to storm drain or infiltration.			

LM1 – Mowing, Trimming, Planting

Objectives

- Contain
- Educate
- Reduce/Minimize

Targeted Constituents

- Grass clippings
- Hedge trimmings
- Leaf litter
- Soil

Description

Landscape and open space maintenance activities include grass cutting, trimming, and planting trees and shrubs, and other landscaping conducted on municipal/township/county owned property and facilities. All of these practices have the potential to contribute pollutants to the storm drainage system. The objectives of this BMP are to prevent the disposal of landscape waste into the storm drain system by collecting and properly disposing of clippings and cuttings, and educating employees and the public.

Revised: 11/8/13

Landscape and Open Maintenance LM1

Inspection Checklist:

Review all Pollution Prevention Practices and place a "√" in the box (Yes or No) to indicate whether each practice is being implemented.

Name of Inspector: _____ Date of Inspection: _____

LM1 – Mowing, Trimming, Planting Pollution Prevention Practices	Practice Performed?		State reason if practice is not being performed
	Yes	No	
Mowing/Trimming/Weeding			
1. Check vehicles and equipment for leaks.			
2. Use mechanical methods of vegetation removal in lieu of herbicides.			
3. Use mulch or other erosion control measures when bare soils are exposed.			
4. Perform mowing at optimal times. Mowing should not be performed if significant rain events are predicted.			
Waste Management			
5. Collect leaves, garden clippings, pruning waste, tree trimmings, and weeds.			

LM1 – Mowing, Trimming, Planting Pollution Prevention Practices	Practice Performed?		State reason if practice is not being performed
	Yes	No	
6. Chip if necessary and compost or dispose of at landfill.			
7. Place temporarily stockpiled material away from watercourses and storm sewer inlets.			
8. Avoid sweeping or blowing clippings, leaves and other yard waste into a storm sewer system. Grass clippings or leaves may either be left in place or collected and composted.			
9. Perform grass cycling, which is the natural recycling of grass by leaving the clippings on the lawn when mowing. Grass clippings decompose quickly and release valuable nutrients back into the lawn.			
Planting Practices			
10. Consider vegetation's effect on drainage and erosion, hardiness, maintenance requirements, and possible conflicts between preserving vegetation and the resulting maintenance needs.			
11. Plant selected native vegetation whose features are determined to be beneficial.			

LM1 – Mowing, Trimming, Planting Pollution Prevention Practices	Practice Performed?		State reason if practice is not being performed
	Yes	No	
12. Reduce the use of high nitrogen fertilizers that produce excess growth requiring more frequent mowing or trimming.			

LM2 – Fertilizer, Pesticide, Herbicide Use

Objectives

- Contain
- Educate
- Reduce/Minimize

Targeted Constituents

- Grass clippings
- Hedge trimmings
- Leaf litter
- Soil

Description

Landscape maintenance activities include herbicide, insecticide, and fertilizer application. Vegetation control typically involves a combination of chemical application and mechanical methods. All of these maintenance practices have the potential to contribute pollutants to the storm drain system. The major objectives of this BMP are to minimize the discharge of pesticides, herbicides and fertilizers to the storm drain system and receiving waters; prevent the disposal of landscape waste into the storm drain system by collecting and properly disposing of clippings and cuttings, and educating employees and the public.

Landscape and Open Maintenance LM2

Inspection Checklist:

Review all Pollution Prevention Practices and place a "√" in the box (Yes or No) to indicate whether each practice is being implemented.

Name of Inspector: _____ Date of Inspection: _____

LM2 – Fertilizer, Pesticide, Herbicide Use Pollution Prevention Practices	Practice Performed?		State reason if practice is not being performed
	Yes	No	
1. Employ licensed personnel to apply pesticides, per state law.			
2. Employees responsible for fertilizer and pesticide application must attend periodic training as prescribed by federal and state regulations.			
3. Follow all federal, state, and local laws and regulations governing the use, storage, and disposal of fertilizers and pesticides.			
4. Test soils to determine whether fertilizer is necessary and what application rates are appropriate.			
5. Follow manufacturers' recommendations and label directions.			
6. Use less toxic pesticides that will do the job, whenever possible. Avoid use of copper-based pesticides if possible.			

LM2 – Fertilizer, Pesticide, Herbicide Use Pollution Prevention Practices	Practice Performed?		State reason if practice is not being performed
	Yes	No	
7. Do not mix or prepare pesticides for application near storm drains.			
8. Cover ground where mixing or preparation of pesticides occurs to contain spills.			
9. Check vehicles and equipment used of application for leaks.			
10. Prepare the minimum amount of pesticide needed for the job and use the lowest rate that will provide effective control.			
11. Calibrate fertilizer and pesticide equipment to avoid excessive application. Apply at manufacturers recommended rate.			
12. Do not apply insecticides within 100 feet of surface waters such as lakes, ponds, wetlands, and streams.			
13. Do not use pesticides if rain is expected.			
14. Apply pesticides only when wind speeds are low.			

LM2 – Fertilizer, Pesticide, Herbicide Use Pollution Prevention Practices	Practice Performed?		State reason if practice is not being performed
	Yes	No	
15. Employ techniques to minimize off-target application (e.g. spray drift) of pesticides, including consideration of alternative application techniques.			
16. Rinse fertilizer/pesticide/herbicide containers, and use rinse water as product. Dispose of unused liquids or solids as hazardous waste.			
17. Completely empty pesticide / fertilizer containers, dry and dispose of according to instructions on the container label.			
18. Sweep up spills and/or material inadvertently applied to paved areas and reuse or dispose of as directed by manufacturer			

Electrical Manhole Cleaning and Water Removal MH1

MH1 – Manhole Cleaning and Water Removal

Objectives
▪ Contain
▪ Educate
▪ Reduce/Minimize
Targeted Constituents
▪ Dewatered manhole clean wastes
▪ Dewatering effluent from cleaning activities

Description

An electrical manhole contains cable primarily and at times transformers or switches. Water and debris can enter from the surface, connecting manholes or from ground water from inside the manhole. In order to perform maintenance or modifications they must be periodically cleaned out. The following practices will help to prevent the resulting dewatered wastes from reaching the receiving waters.

Manhole Cleaning and Water Removal MH1

Inspection Checklist:

Review all Pollution Prevention Practices and place a "√" in the box (Yes or No) to indicate whether each practice is being implemented.

Name of Inspector: Date of Inspection: 07

MH1 –Manhole Cleaning and Water Removal Pollution Prevention Practices	Practice Performed?		State reason if practice is not being performed
	Yes	No	
Facility Inspections			
1. Inspect facilities for the following: a. Repair immediate threats to structural integrity due to deterioration b. Check for percent full of Manhole (see cleaning) c. Identify those which have not been stenciled or labeled			
2. Conduct inspections in problem areas.			
3. Identify priority inspection times (e.g., time periods and vaults likely to have high accumulation of water and debris collection).			

MH1 –Manhole Cleaning and Water Removal Pollution Prevention Practices	Practice Performed?		State reason if practice is not being performed
	Yes	No	
4. Assess if manhole appears to contain contaminated waste stream (i.e., does odor suggest presence of petroleum, solvents, or other chemicals; does surface exhibit iridescent sheen)			
Perform Cleaning/Repairs			
5. Clean as necessary			
6. Clean/maintain areas with high accumulation rates more frequently.			
7. Perform cleaning activities using vactor.			
8. Dispose of non-hazardous waste at Trucked Waste Facility. If vault appears to contain hazardous waste stream, contact contractor to collect, remove, and properly dispose of hazardous waste.			
Stenciling / Labeling			
9. Stencil or label on manholes.			

MH1 –Manhole Cleaning and Water Removal Pollution Prevention Practices	Practice Performed?		State reason if practice is not being performed
	Yes	No	
Recordkeeping			
10. Maintain accurate logs of number of facilities inspected/cleaned/repaired.			
11. Record amount of waste collected.			

MS1 – Material Loading and Unloading

Objectives

- Contain
- Educate
- Reduce/Minimize

Targeted Constituents

- Raw or containerized materials that could spill during loading and unloading

Description

The loading/unloading of materials usually takes place outside on docks or terminals; therefore, materials spilled, leaked, or lost during loading/unloading may collect in the soil or on other surfaces and have the potential to be carried away by stormwater runoff or when the area is cleaned. Additionally, rainfall may wash pollutants from machinery used to unload or move materials. Loading and unloading of material may include package products, barrels, and bulk products. Implementation of the following protocols will prevent or reduce the discharge of pollutants to stormwater from outdoor loading/unloading of materials.

Revised: 11/8/13

Material Storage and Handling MS1

Inspection Checklist:

Review all Pollution Prevention Practices and place a "√" in the box (Yes or No) to indicate whether each practice is being implemented.

Name of Inspector: _____ Date of Inspection: _____

MS1 – Material Loading and Unloading Pollution Prevention Practices	Practice Performed?		State reason if practice is not being performed
	Yes	No	
1. Routinely check loading / unloading equipment for leaks.			
2. Conduct loading / unloading during dry weather when possible.			
3. If feasible, load and unload all materials and equipment in covered areas such as building overhangs at loading docks.			
4. Load and unload only at designated loading areas.			
5. Use drip pans under hose and pipe connections for liquid transfer operations, and when making and breaking connections.			
6. Cover storm sewer inlets or otherwise close off access to the storm sewer systems that are exposed to loading/unloading operations while loading/unloading operations are conducted.			

Revised: 11/8/13

MS2 – Outdoor Container Storage

Objectives

- Cover and Contain
- Educate
- Reduce/Minimize

Targeted Constituents

- Container contents
- Solvents
- Petroleum Products
- Chemicals

Description

Accidental releases of materials from above ground liquid storage tanks, drums, and dumpsters present the potential for contaminating stormwater with many pollutants. Tanks store potential stormwater runoff pollutants, such as gasoline, aviation gas, diesel fuel, ammonia, solvents, etc. Materials that spill, leak, or are lost from storage tanks may accumulate in soils or on other surfaces and may be carried away by rainfall runoff. Source controls include installing safeguards against accidental releases, installing secondary containment, conducting regular inspections, and training employees in standard operating procedures and spill cleanup techniques.

Revised: 11/8/13

Material Storage and Handling MS2

Inspection Checklist:

Review all Pollution Prevention Practices and place a "√" in the box (Yes or No) to indicate whether each practice is being implemented.

Name of Inspector: _____ Date of Inspection: _____

MS2 – Outdoor Container Storage Pollution Prevention Practices	Practice Performed?		State reason if practice is not being performed
	Yes	No	
1. Clearly label containers and drums to inform users of container contents.			
2. Protect / cover containers to prevent exposure to precipitation.			
3. Provide secondary containment against accidental releases from materials containers.			
4. Promptly dispose of empty drums or store empty drums indoors. Do not leave empty drums lying around outdoors.			
5. Protective guards present for tanks to prevent vehicle or forklift damage.			
6. Ensure that site complies with all applicable Ohio EPA requirements for secondary containment for above ground storage tanks.			
7. Place drip pans or absorbent materials beneath all mounted container taps, and at all potential drip and spill locations			

Revised: 11/8/13

MS2 – Outdoor Container Storage Pollution Prevention Practices	Practice Performed?		State reason if practice is not being performed
	Yes	No	
during filling and unloading of containers.			
8. Inspect containers to ensure they are in good watertight condition without corrosion and / or leaky seams, as well as inspecting storage areas and containers for leaks and spills.			
9. Inspect piping systems (pipes, pumps, flanges, couplings, hoses, and valves) for failures or leaks.			
10. Store hazardous materials as required under all applicable state and federal laws.			

MS3 – Outdoor Storage of Raw Materials

Objectives

- Cover and Contain
- Reduce/Minimize
- Educate

Targeted Constituents

- Containerized or stockpiled raw materials
- Examples: salt, sand, stone

Description

Raw materials, by-products, finished products, containers, and material storage areas exposed to rain and/or runoff can pollute stormwater. When these materials wash off or dissolve into water or are added to runoff by spills and leaks, stormwater can become contaminated. Improper storage of these materials can result in accidental spills and the release of materials to stormwater. Pollution prevention and source control measures must be implemented to avoid this contamination. These measures include, but are not limited to, minimizing the storage of hazardous materials on-site, enclosing or covering materials, storing materials in a designated area, installing secondary containment, and conducting regular inspections.

Revised: 11/8/13

Material Storage and Handling MS3

Inspection Checklist:

Review all Pollution Prevention Practices and place a "√" in the box (Yes or No) to indicate whether each practice is being implemented.

Name of Inspector: _____ Date of Inspection: _____

MS3 – Outdoor Storage of Raw Materials Pollution Prevention Practices	Practice Performed?		State reason if practice is not being performed
	Yes	No	
1. Keep accurate and up-to-date inventories of all stored materials.			
2. Cover, enclose, and/or berm outdoor storage areas to prevent exposure to storm water.			
3. Cover raw materials and use berms to direct storm water away from material storage areas.			
4. Locate outdoor storage materials away from stormwater inlets and channels			
5. Place bagged materials on pallets. Do not store these items directly on the ground.			
6. Cover treated wood products with a tarp or store indoors.			
For exposed stockpiles containing loose, waterborne materials such as sand, unwashed aggregate, woodchips, untreated/uncolored mulch, or topsoil.			

Revised: 11/8/13

MS3 – Outdoor Storage of Raw Materials Pollution Prevention Practices	Practice Performed?		State reason if practice is not being performed
	Yes	No	
7. Locate stockpiles away from stormwater inlets and channels			
8. Cover piles with plastic sheeting			
9. Install sediment filters (i.e. dandy bags) on surrounding storm sewer inlets			
10. Construct check dams along open waterways through which the runoff from the pile(s) are conveyed			
11. Install and maintain silt fence on the downstream side of the pile(s)			
12. Direct pile runoff into constructed sediment basins or underground sediment chambers before discharge into the onsite storm sewer system.			

MS4 – Waste Handling and Disposal

Objectives

- Contain
- Educate
- Reduce/Minimize

Targeted Constituents

- Liquid Waste
- Solid Waste
-

Description

Improper storage and handling of solid wastes can allow toxic compounds, oils and greases, heavy metals, nutrients, suspended solids, and other pollutants to enter stormwater runoff. The discharge of pollutants to stormwater from waste handling and disposal can be prevented and reduced by tracking waste generation, storage, and disposal; reducing waste generation and disposal through source reduction, re-use, and recycling; and preventing runon and runoff.

Revised: 11/8/13

Inspection Checklist:

Review all Pollution Prevention Practices and place a "√" in the box (Yes or No) to indicate whether each practice is being implemented.

Name of Inspector: _____ Date of Inspection: _____

MS4 – Waste Handling and Disposal Pollution Prevention Practices	Practice Performed?		State reason if practice is not being performed
	Yes	No	
1. Cover refuse storage containers with leak proof lids, roofs, and/or other impermeable material.			
2. Use drip pans or absorbent materials whenever grease containers are emptied by vacuum trucks or other means. Properly dispose of grease as garbage.			
3. Routinely check storage containers for leaks and to ensure that lids are tightly secured. Replace or repair any containers that are leaking, corroded, or otherwise deteriorating.			
4. Regularly inspect, sweep and clean waste storage areas.			
5. Dispose of rinse and wash water from cleaning waste containers into a sanitary sewer. **DO NOT DISCHARGE WASH WATER TO THE STORM SEWER SYSTEM.**			
6. Store hazardous materials and wastes in compliance with all applicable state and federal requirements pursuant to the Resource Conservation and Recovery Act (RCRA).			

Revised: 11/8/13

PS1 – Parking and Storage Area Maintenance

Objectives

- Contain
- Educate
- Reduce/Minimize

Targeted Constituents

- Litter
- Vehicle/equipment fluids
- Rags and absorbents used for spill clean-up

Description

Parking lots and storage areas can contribute a number of substances, such as trash, suspended solids, hydrocarbons, oil and grease, and heavy metals that can enter receiving waters through stormwater runoff or non-stormwater discharges. Therefore, it is important to keep parking lots and storage areas clean and orderly to minimize the amount of pollutants that reach the receiving waters.

Revised: 11/8/13

Parking and Storage Area Maintenance PS1

Inspection Checklist:

Review all Pollution Prevention Practices and place a "√" in the box (Yes or No) to indicate whether each practice is being implemented.

Name of Inspector: _____ Date of Inspection: _____

PS1 – Parking and Storage Area Maintenance Pollution Prevention Practices	Practice Performed?		State reason if practice is not being performed
	Yes	No	
1. Inspect long-term parking areas regularly to check for leaking vehicles and equipment.			
2. Immediately report leaking city vehicles and equipment to fleet maintenance.			
3. Park leaking vehicles under cover wherever possible.			
4. Use drip pans under all leaking vehicles and equipment that are placed in long term storage or are awaiting maintenance.			
5. Inspect parking areas regularly to check for filling drip pans.			
6. Drain and contain all fluids from wrecked vehicles, vehicles used for spare parts, or vehicles taken out of permanent service.			
7. Control Litter by doing the following: a. Post "Do not litter" signs.			

Revised: 11/8/13

PS1 – Parking and Storage Area Maintenance Pollution Prevention Practices	Practice Performed?		State reason if practice is not being performed
	Yes	No	
b. Provide adequate number of litter receptacles. c. Cover and frequently empty litter receptacles. d. Routinely sweep/shovel, and dispose of litter.			
8. Use dry cleaning methods for paved surfaces when possible. Dispose of parking lot sweeping debris and dirt at a landfill.			
9. If wet cleaning methods are used: a. Block storm drains or contain runoff. b. Collect wash water and pump to the sanitary sewer or discharge to a pervious surface			
10. When cleaning heavy oily deposits: a. Use absorbent materials on oily spots prior to sweeping or washing. b. Appropriately dispose of used absorbents.			
11. Regarding surface repair, follow the same BMPs prescribed for field activities for Pavement Repair and Maintenance.			

SM1 – Pavement Sweeping and Cleaning

Objectives

- Contain
- Educate
- Reduce/Minimize

Targeted Constituents

- Debris
- Dirt
- Litter
- Grit

Description

Streets and parking lots can contribute a number of substances, such as trash, leaves, suspended solids, hydrocarbons, oil and grease, and pavement deicers, that can enter receiving waters through stormwater runoff or non-stormwater discharges. Pavement sweeping and cleaning is performed to minimize the amount of these pollutants that enter the receiving waters.

Revised: 11/8/13

Street and Parking Lot Maintenance SM1

Inspection Checklist:

Review all Pollution Prevention Practices and place a "√" in the box (Yes or No) to indicate whether each practice is being implemented.

Name of Inspector: _____ Date of Inspection: _____

SM1 – Pavement Sweeping and Cleaning Pollution Prevention Practices	Practice Performed?		State reason if practice is not being performed
	Yes	No	
Planning			
1. Increase sweeping frequency for high traffic areas.			
2. Increase sweeping frequency in the fall (leaf removal) and spring (pavement de-icers).			
3. Increase sweeping frequency for streets in special problem areas such as special events, high litter areas or construction zones.			
4. Restrict parking during sweeping: a. Restrictions on permanent signs b. Restrictions on temporary signs c. Announce restrictions via fliers, newsletters, or media			
Perform Sweeping / Cleaning			

SM1 – Pavement Sweeping and Cleaning Pollution Prevention Practices	Practice Performed?		State reason if practice is not being performed
	Yes	No	
5. Regularly inspect vehicles and equipment for leaks, and repair immediately.			
6. If available, use vacuum or regenerative air sweepers in the high sediment and trash areas (e.g., industrial/commercial)			
7. Keep accurate logs of the number of curb miles swept and the amount of waste collected.			
Disposal of Sweeping / Cleaning Wastes			
8. Dispose of street sweeping debris and dirt at a licensed landfill.			
9. Do not store swept material along the side of the street or near a storm drain inlet.			
10. Make sure temporary debris piles are contained with a cover or berm.			

SM2 – De-icing and Snow Removal

Objectives

- Contain
- Educate
- Reduce/Minimize

Targeted Constituents

- Road salt
- Sand
- Grit

Description

Materials commonly used to de-ice streets and parking lots include rock salt (NaCl), calcium chloride ($CaCl_2$), urea, potassium chloride (KCL), and calcium magnesium acetate (CMA). When the ice melts, the salt and chemicals used dissolve and flow into street drains, which lead directly to the receiving waters. Depending on the product used, impacts from these materials can range from reducing oxygen levels to increasing sediment and phosphorus levels in lakes and streams.

Revised: 11/8/13

Street and Parking Lot Maintenance SM2

Inspection Checklist:

Review all Pollution Prevention Practices and place a "√" in the box (Yes or No) to indicate whether each practice is being implemented.

Name of Inspector: _____ Date of Inspection: _____

SM2 – De-icing and Snow Removal Pollution Prevention Practices	Practice Performed?		State reason if practice is not being performed
	Yes	No	
1. Load equipment with de-icing materials away from drainage systems or watercourses.			
2. Store/stockpile materials under cover, away from drainage areas.			
3. Limit road salt / de-icers to critical areas (e.g., main thoroughfares, schools, main intersections, main parking areas) during all winter storm events except ice storms or significant snowfalls.			
4. Restrict the application of road salt/de-icers near water bodies.			
5. Apply only the minimum amount of road salt/de-icer necessary to perform the job. While this amount is generally dependent on pavement temperature, studies support an application range of approximately 350 to 460 lbs per mile.			
6. Use alternative, less toxic deicer products where possible (e.g., calcium magnesium acetate, magnesium chloride, and			

Revised: 11/8/13

SM2 – De-icing and Snow Removal Pollution Prevention Practices	Practice Performed?		State reason if practice is not being performed
	Yes	No	
calcium chloride)			
7. Wash vehicles and equipment in accordance with pollution prevention practice VM3 – Vehicle/Equipment Cleaning.			

SM3 – Roadway Repair and Maintenance

Objectives

- Contain
- Educate
- Reduce/Minimize

Targeted Constituents

- Asphalt and concrete waste
- Saw cut slurry
- Wash water
- Paint
- Vehicle fluids
- Sealants
- Gasoline/diesel

Description

Streets, roads, and highways are significant sources of pollutants in stormwater discharges. If operation and maintenance (O&M) practices are not conducted properly, they can also contribute to the problem. Stormwater pollution from roadway and bridge maintenance should be addressed on a site-specific basis. The use of the procedures that address street sweeping and repair, bridge and structure maintenance will help reduce pollutants in stormwater.

Revised: 11/8/13

Street and Parking Lot Maintenance SM3

Inspection Checklist:

Review all Pollution Prevention Practices and place a "√" in the box (Yes or No) to indicate whether each practice is being implemented.

Name of Inspector: _____ Date of Inspection: _____

SM3 – Roadway Repair and Maintenance Pollution Prevention Practices	Practice Performed?		State reason if practice is not being performed
	Yes	No	
General			
1. Avoid pavement repair when precipitation is expected.			
2. Check vehicles and equipment for leaks			
3. Block storm drain inlets prior to initiating activity.			
4. Prepare/mix materials away from drainage systems or watercourses.			
5. Store/stockpile materials under cover, away from storm sewer inlets and watercourses.			
6. Limit mixing and preparation of materials to just enough for the job (i.e., prevent excess).			

SM3 – Roadway Repair and Maintenance Pollution Prevention Practices	Practice Performed?		State reason if practice is not being performed
	Yes	No	
Pavement Marking			
7. Transport paint materials to and from job sites in containers with secure lids and tied down to the transport vehicle.			
8. Transfer and load paint and hot thermoplastic away from storm drain inlets.			
9. Provide drop clothes and drip pans in paint mixing areas.			
10. Sweep up thermoplastic grindings.			
11. Use water based paints whenever possible. Wash water used to clean water based paint residue must be discharged to the sanitary sewer.			
Concrete and Asphalt Installation and Repair			
12. Preheat, transfer, or load hot bituminous material away from storm sewer inlets or watercourses.			
13. Where applicable, cover and seal nearby storm drain inlets before applying seal coats, slurry seals, etc. Leave covers in place until job is complete and all water from emulsified oil sealants has evaporated.			

SM3 – Roadway Repair and Maintenance Pollution Prevention Practices	Practice Performed?		State reason if practice is not being performed
	Yes	No	
14. Prevent runoff from dust control activities from entering the storm sewer system.			
15. Minimize water use when saw cutting pavement and install inlet protection to prevent process water from entering the storm sewer system.			
Bridge Painting and Paint/Graffiti Removal			
16. Transport paint material to and from job sites in containers with secure lids and tied down to the transport vehicle.			
17. Transfer and load paint materials away from storm sewer inlets and watercourses.			
18. Test, inspect, and fix leaks on spray equipment prior beginning job.			
19. Plug nearby inlets to prevent spilled paint or sandblasting materials from entering the storm sewer system.			
20. Contain and filter runoff from pressure washing operations and discharge into a sanitary sewer system.			
21. Perform work on a maintenance traveler or platform, or use suspended netting or tarps to capture paint, rust, paint removing agents, or other materials to prevent discharge to			

SM3 – Roadway Repair and Maintenance Pollution Prevention Practices	Practice Performed?		State reason if practice is not being performed
	Yes	No	
surface waters if painting is over a watercourse. If sanding use a sander with a vacuum filter bag.			
22. Use sweeping methods where possible for cleanup. Capture all cleanup water and dispose of properly.			
23. Dispose of paint materials properly. **DO NOT DISCARD PAINT MATERIALS INTO THE STORM SEWER SYSTEM.**			
Jobsite Equipment Maintenance			
24. Inspect jobsite equipment daily and repair any leaks immediately			
25. If equipment refueling or repair must be done onsite, use a location away from storm sewer inlets or watercourses.			
26. Clean equipment including sprayers, sprayer paint supply lines, patch and paving equipment daily in a designated vehicle wash area that is properly plumbed to an oil water separator and a sanitary sewer system.			
Jobsite Cleanup			
27. Sweep up excess materials, do not use water.			

SM3 – Roadway Repair and Maintenance Pollution Prevention Practices	Practice Performed?		State reason if practice is not being performed
	Yes	No	
28. Do not wash sweepings from roadway maintenance activities into the street or storm drain. Dispose of small amounts of hardened excess concrete, grout, mortar, etc. in the trash.			
29. Wash vehicles and equipment in accordance with pollution prevention practice VM3 – Vehicle/Equipment Cleaning.			
30. Remove and dispose of debris or excess material from the work area following job completion.			
31. Wash concrete trucks offsite or in designated areas onsite that are designed to prevent the discharge of wash waste to the storm sewer system.			

SP1 – Sidewalk and Plaza Cleaning

Objectives

- Cover
- Contain
- Educate
- Reduce/Minimize

Targeted Constituents

- Debris
- Dirt
- Litter
- Grit

Description

Pollutants on sidewalks and other pedestrian traffic areas and plazas are typically due to littering and vehicle use. This fact sheet describes good housekeeping practices that can be incorporated into the city's existing cleaning and maintenance program.

Sidewalk and Plaza Cleaning SP1

Inspection Checklist:

Review all Pollution Prevention Practices and place a "√" in the box (Yes or No) to indicate whether each practice is being implemented.

Name of Inspector: _____ Date of Inspection: _____

SP1 – Sidewalk and Plaza Cleaning Pollution Prevention Practices	Practice Performed?		State reason if practice is not being performed
	Yes	No	
Surface Cleaning			
1. Regularly broom (dry) sweep sidewalk, plaza and parking lot areas to minimize cleaning with water.			
2. Dry cleanup first (sweep and collect debris and trash) when cleaning sidewalks or plazas, before washing with water.			
3. Block the storm drain and/or contain wash water when cleaning with water.			
Disposal of Sweeping / Cleaning Wastes			
4. Dispose of debris and dirt collected by sweeping in the trash or at a licensed landfill.			

SP1 – Sidewalk and Plaza Cleaning Pollution Prevention Practices	Practice Performed?		State reason if practice is not being performed
	Yes	No	
5. Dispose of collected debris immediately. Do not store swept material along the side of a street, plaza, or sidewalk, or near a storm drain inlet.			
6. Make sure temporary debris piles are contained with a cover or berm.			
7. Discharge collected wash water to a sanitary sewer.			

SW1 – Catch Basin and Manhole Cleaning and Repair

Objectives

- Contain
- Educate
- Reduce/Minimize

Targeted Constituents

- Dewatered catch basin and manhole cleaning wastes
- Dewatering effluent from cleaning activities

Description

A catch basin is an inlet to the storm drain system that typically includes a grate or curb inlet where stormwater enters the storm sewer system. Manholes are structures that are provided to allow grade breaks, pipe size changes, and direction changes for rigid storm sewer systems. Manholes are also used to allow access for pipe cleaning where long reaches of storm sewer exist. Both catch basins manholes can reduce the load of oxygen-demanding substances that reach surface waters if water is trapped in the bottom of the structure. By trapping coarse sediment, catch basins and manholes can also clog the storm sewer and increase the risk of flooding. To maintain the function of these structures, they must be periodically cleaned out. The following practices will help to prevent the resulting dewatered wastes from reaching the receiving waters.

Revised: 11/8/13

Inspection Checklist:

Review all Pollution Prevention Practices and place a "√" in the box (Yes or No) to indicate whether each practice is being implemented.

Name of Inspector: _____ Date of Inspection: _____

SW1 –Catch Basin and Manhole Cleaning and Repair Pollution Prevention Practices	Practice Performed?		State reason if practice is not being performed
	Yes	No	
Facility Inspections			
1. Inspect facilities for the following: a. Repair immediate threats to structural integrity due to deterioration b. Check for percent full of catch basin or manhole (see cleaning) c. Identify those which have not been stenciled or labeled			
2. Conduct inspections in problem areas.			
3. Identify priority periods, areas with high accumulation rates.			
Perform Cleaning/Repairs			
4. Clean before capacity is reduced 50%.			

SW1 –Catch Basin and Manhole Cleaning and Repair Pollution Prevention Practices	Practice Performed?		State reason if practice is not being performed
	Yes	No	
5. Clean/maintain areas with high accumulation rates more frequently.			
6. Perform cleaning activities using manual or mechanical cleaners.			
7. Dewater materials collected during catch basin or manhole cleaning into an approved sanitary sewer. DO NOT DISCHARGE TO THE STORM SEWER SYSTEM.			
8. Store dewatered wastes collected during cleaning either under cover and away from storm drains or on a concrete pad that drains to an approved sanitary sewer. Dispose of solid wastes in licensed landfill.			
Stenciling / Labeling			
9. Stencil or label on catch basins/inlets.			
Recordkeeping			

SW1 –Catch Basin and Manhole Cleaning and Repair Pollution Prevention Practices	Practice Performed?		State reason if practice is not being performed
	Yes	No	
10. Maintain accurate logs of number of facilities inspected/cleaned/repaired.			
11. Record amount of waste collected.			

SW2 – Storm Sewer Cleaning and Repair

Objectives

- Contain
- Educate
- Reduce/Minimize

Targeted Constituents

- Dewatered storm sewer cleaning wastes
- Dewatered effluent from storm sewer cleaning

Description

As a consequence of its function, the stormwater conveyance system collects and transports urban runoff that may contain certain pollutants. Maintaining catch basins, stormwater inlets, and other stormwater conveyance structures on a regular basis will remove pollutants, prevent clogging of the downstream conveyance system, restore catch basins' sediment trapping capacity, and ensure the system functions properly hydraulically to avoid flooding.

Revised: 11/8/13

Inspection Checklist:

Review all Pollution Prevention Practices and place a "√" in the box (Yes or No) to indicate whether each practice is being implemented.

Name of Inspector: _____ Date of Inspection: _____

SW2 – Storm Sewer Cleaning and Repair Pollution Prevention Practices	Practice Performed?		State reason if practice is not being performed
	Yes	No	
Identification and Schedule			
1. Review complaint records, conduct standard inspection practices such as CCTV to identify reaches of storm sewers with deposit problems.			
2. Identify segment to be maintained based upon: a. Availability of downstream manhole to collect sediments b. Requirements for liquid/sediment disposal			
Perform Cleaning			
3. Utilize flush truck or combination truck to use high pressure water to move debris/sediment from upstream manhole to downstream manhole. Vacuum out debris at downstream manhole.			
4. Decant liquid from trucks into an approved sanitary sewer. DO NOT DISCHARE TO A STORM SEWER SYSTEM.			

SW2 – Storm Sewer Cleaning and Repair Pollution Prevention Practices	Practice Performed?		State reason if practice is not being performed
	Yes	No	
Dispose of solids at an approved landfill facility.			

SW3 – Channel/Ditch Cleaning and Repair

Objectives

- Contain
- Educate
- Reduce/Minimize

Targeted Constituents

- Removed vegetation
- Sediment
- Litter
- Debris

Description

Channels and drainage ditches receive storm water from the storm sewer system. Channels and ditches can contribute a significant amount of sediment to runoff, both from channelization and erosion within the ditch and accumulated sediment and other fine debris from the road surface. Channels and drainage ditches must be maintained to avoid obstruction and maintain flow. Removal of silt, debris, and overgrown vegetation helps to maintain the flood control capacity of drainage ditches. Sediment and debris removal may also improve water quality downstream by removing the pollutants contained in those deposits.

Revised: 11/8/13

Inspection Checklist:

Review all Pollution Prevention Practices and place a "√" in the box (Yes or No) to indicate whether each practice is being implemented.

Name of Inspector: _____ Date of Inspection: _____

SW3 – Channel/Ditch Cleaning and Repair Pollution Prevention Practices	Practice Performed?		State reason if practice is not being performed
	Yes	No	
Existing Regulation Compliance and Other Considerations			
1. Determine if channel is subject to Section 401/404 regulations. If so, follow appropriate federal guidelines and permitting requirements.			
Cleaning / Maintenance of Channels Not Subject to 401/404 Regulations			
2. Prune live vegetation and remove debris as necessary to maintain hydraulic channel capacity.			
3. Perform mowing of vegetated ditches as necessary.			
4. Remove debris blocking culverts.			
5. Remove sediment/dredge materials from non-vegetated ditches.			

SW3 – Channel/Ditch Cleaning and Repair Pollution Prevention Practices	Practice Performed?		State reason if practice is not being performed
	Yes	No	
6. Stabilize banks through seeding, sod, or other means.			

SW4 – Publicly Owned Detention Basin Cleaning and Repair

Objectives

- Contain
- Educate
- Reduce/Minimize

Targeted Constituents

- Removed vegetation
- Sediment
- Litter
- Debris

Description

A detention basin is an artificial flow control structure that is used to contain flood water for a limited period of a time. They are designed to intercept a volume of storm water, temporarily hold the water, and then release it shortly after the storm event. Because this reduces the peak flow rate and energy of the storm water discharging to the receiving waters, detention basins help to limit downstream scour. Detention basins also remove suspended solids and associated contaminants by settling due to gravity. These systems can easily clog at inlets and outlets, which effects their retention times and pollutant removal efficiency. This problem can be minimized through their regular maintenance.

Inspection Checklist:

Review all Pollution Prevention Practices and place a "√" in the box (Yes or No) to indicate whether each practice is being implemented.

Name of Inspector: _____ Date of Inspection: _____

SW4 – Publicly Owned Detention Basin Cleaning and Repair Pollution Prevention Practices	Practice Performed?		State reason if practice is not being performed
	Yes	No	
Inspections			
1. Inspect annually and after significant storm events to identify potential problems early.			
2. Monitor items including, but not limited to: a. Bank stability, vegetation growth, structural integrity b. Inlet, outlet and spillway structures			
Cleaning/repairs			
3. Repair undercut and eroded areas.			
4. Maintain vegetated buffer; mow side slopes.			
5. Minimize pesticide and fertilizer use.			

SW4 – Publicly Owned Detention Basin Cleaning and Repair Pollution Prevention Practices	Practice Performed?		State reason if practice is not being performed
	Yes	No	
6. Remove litter and debris from embankment, spillway, trash rack, inlet/outlet structures, etc.			
7. Inspect and control for disease vectors, such as mosquitoes, as necessary (including vegetation maintenance).			
8. Perform structural repair or replacement, as needed.			
9. Seed or sod to restore dead/damaged ground cover.			
10. Monitor wetland plants established and remove invasive plants			
11. Remove sediment from permanent pool when accumulation reaches 20% of design volume. Install a fixed vertical sediment depth marker to measure sediment deposition.			
12. Monitor sediment accumulation in forebay and remove/re-grade when volume exceeds 50%.			
13. Remove sediment from outlet structure.			

Revised: 11/8/13

SW4 – Publicly Owned Detention Basin Cleaning and Repair Pollution Prevention Practices	Practice Performed?		State reason if practice is not being performed
	Yes	No	
14. Trim vegetation at beginning and end of growing season to prevent woody vegetation on embankments and for aesthetic and disease vector reasons (applicable to dry ponds).			

Transformer Maintenance and Handling TM1

TM1 – Transformer Maintenance and Handling

Objectives
▪ Cover and Contain
▪ Educate
▪ Reduce/Minimize
Targeted Constituents
▪ Container contents
▪ Solvents
▪ Petroleum Products ▪ Chemicals

Description

Accidental releases of materials from aboveground transformers can present the potential for contaminating stormwater with many pollutants. Materials that spill, leak, or are lost from transformers may accumulate in soils or on other surfaces and may be carried away by rainfall runoff. Source controls include installing safeguards against accidental releases, installing secondary containment, conducting regular inspections, and training employees in standard operating procedures and spill cleanup techniques.

Revised: 11/8/2013

Transformer Maintenance and Handling TM1

Inspection Checklist:

Review all Pollution Prevention Practices and place a "√" in the box (Yes or No) to indicate whether each practice is being implemented.

Name of Inspector: _____ Date of Inspection: _____

TM1 – Transformer Maintenance and Handling Pollution Prevention Practices	Practice Performed?		State reason if practice is not being performed
	Yes	No	
1. Clearly label transformers to inform users of container contents.			
2. Provide secondary containment against accidental releases from materials containers.			
3. Ensure protective guards are present for transformers to prevent vehicle or forklift damage.			
4. Store transformers in areas with secondary containment as designated in the facility's SPCC Plan. Ensure the storage area for transformers has necessary secondary containment.			
5. Inspect transformers to ensure they are in good watertight condition without corrosion and / or leaky seams, as well as inspecting storage areas and containers for leaks and spills.			

TM1 – Transformer Maintenance and Handling Pollution Prevention Practices	Practice Performed?		State reason if practice is not being performed
	Yes	No	
6. Inspect piping systems (pipes, pumps, flanges, couplings, hoses, and valves) for failures or leaks.			

Vault Cleaning and Water Removal V1

V1 – Vault Cleaning and Water Removal

Objectives
▪ Contain
▪ Educate
▪ Reduce/Minimize
Targeted Constituents
▪ Dewatered vault clean wastes
▪ Dewatering effluent from cleaning activities

Description

An electrical Vault contains cable, transformers and switches. Water and debris can enter from the surface grating, connecting manholes or from ground water from inside the vault. In order to perform maintenance or modifications they must be periodically cleaned out. The following practices will help to prevent the resulting dewatered wastes from reaching the receiving waters.

Revised: 11/8/2013

Vault Cleaning and Water Removal V1

Inspection Checklist:

Review all Pollution Prevention Practices and place a "√" in the box (Yes or No) to indicate whether each practice is being implemented.

Name of Inspector: _____ Date of Inspection: _____

V1 –Vault Cleaning and Water Removal Pollution Prevention Practices	Practice Performed?		State reason if practice is not being performed
	Yes	No	
Facility Inspections			
1. Inspect facilities for the following: a. Repair immediate threats to structural integrity due to deterioration b. Check for percent full of vault (see cleaning) c. Identify those which have not been stenciled or labeled			
2. Have waste stream samples collected periodically for evaluation of presence of hazardous constituents and waste profile generated by Surveillance Lab			
3. Identify priority inspection times (e.g., time periods and vaults likely to have high accumulation of water and debris collection).			

V1 –Vault Cleaning and Water Removal Pollution Prevention Practices	Practice Performed?		State reason if practice is not being performed
	Yes	No	
4. Conduct inspections in problem areas.			
5. Assess if vault appears to contain contaminated waste stream (i.e., does odor suggest presence of petroleum, solvents, or other chemicals; does surface exhibit iridescent sheen)			
Perform Cleaning/Repairs			
6. Clean as necessary			
7. Clean/maintain areas with high accumulation rates more frequently.			
8. If vault appears to contain only non-hazardous waste-stream as profiled previously, perform cleaning activities using vactor.			
9. Dispose of non-hazardous waste at Trucked Waste Facility.			
10. If vault appears to contain hazardous waste stream, contact contractor to collect, remove, and properly dispose of hazardous waste.			

V1 –Vault Cleaning and Water Removal Pollution Prevention Practices	Practice Performed?		State reason if practice is not being performed
	Yes	No	
Stenciling / Labeling			
11. Stencil or label on vaults.			
Recordkeeping			
12. Maintain accurate logs of number of facilities inspected/cleaned/repaired.			
13. Record amount of waste collected.			

VM1 – Vehicle/Equipment Fueling

Objectives

- Contain
- Educate
- Reduce/Minimize

Targeted Constituents

- Gasoline/diesel
- Vehicle/equipment fluids
- Rags/absorbents used for spill clean-up

Description

Spills and leaks that occur during vehicle and equipment fueling can contribute hydrocarbons, oil and grease, as well as heavy metals to stormwater runoff. Implementing the following management practices can help prevent fuel spills and leaks.

Inspection Checklist:

Review all Pollution Prevention Practices and place a "√" in the box (Yes or No) to indicate whether each practice is being implemented.

Name of Inspector: _____ Date of Inspection: _____

VM1 – Vehicle/Equipment Fueling Pollution Prevention Practices	Practice Performed?		State reason if practice is not being performed
	Yes	No	
1. Check vehicles and equipment for leaks.			
2. Provide spill kits at all refueling locations.			
3. Regularly inspect spill kits to make sure kits are stocked with absorbents and inlet protection.			
4. Promptly respond to spills using a berm or absorbent materials.			
5. Use dry clean-up methods such as sweeping for removal of litter and debris, and use of rags and absorbents for spills.			
6. Immediately report leaking city vehicles and equipment to fleet maintenance.			
7. Provide overflow protection devices in place for tank systems.			

VM1 – Vehicle/Equipment Fueling Pollution Prevention Practices	Practice Performed?		State reason if practice is not being performed
	Yes	No	
8. Label all valves appropriately to prevent human error.			
9. Post signs at fuel dispenser or fuel island instructing employees not to "top off" vehicle / equipment fuel tanks.			
10. Place roof over fueling area or have proper containment around fueling area to prevent precipitation runoff of automotive fluids			
11. Grade area to collect runoff within covered areas in a sump or oil-water separator and divert runoff away from covered areas.			

VM2 – Vehicle/Equipment Maintenance and Repair

Objectives

- Contain
- Educate
- Reduce/Minimize

Targeted Constituents

- Automotive Fluids
- Vehicle/equipment wash water
- Rags/absorbents used for spill clean-up

Description

Vehicle or equipment maintenance and repair is potentially a significant source of stormwater pollution, due to the use of materials and wastes created that are harmful to humans and the environment. Engine repair and service (e.g. parts cleaning), replacement of fluids (e.g. oil change), and outdoor equipment storage and parking (dripping engines) can impact water quality if stormwater runoff from areas with these activities occurring on them becomes polluted by a variety of contaminants.

Revised: 11/8/13

Inspection Checklist:

Review all Pollution Prevention Practices and place a "√" in the box (Yes or No) to indicate whether each practice is being implemented.

Name of Inspector: _____ Date of Inspection: _____

VM2 – Vehicle/Equipment Maintenance and Repair Pollution Prevention Practices	Practice Performed?		State reason if practice is not being performed
	Yes	No	
1. Conduct maintenance/repair activities indoors or under cover.			
2. Maintain an organized inventory of materials used in the maintenance shop.			
3. Recycle greasy rags, oil filters, batteries, and spent coolant.			
4. Prominently label where recycled materials are to be stored in the shop and track the amount of materials that are recycled.			
5. Puncture and "hot" drain oil filters prior to recycling			
6. Store leaking batteries in a non-leaking secondary container			
7. Store leaking vehicles/equipment awaiting maintenance under cover. Where indoor storage is not possible, collect leaking or dripping fluids in a pan or container and dispose or			

VM2 – Vehicle/Equipment Maintenance and Repair Pollution Prevention Practices	Practice Performed?		State reason if practice is not being performed
	Yes	No	
recycle as appropriate.			
8. Wash waters from work areas are directed to a sanitary sewer. Wash waters containing oils and greases are sent through an oil water separator prior to discharge into the sanitary sewer system.			
9. Use dry clean-up methods such as sweeping for removal of litter and debris, and use rags and absorbents to clean up spills, leaks, or dripping fluids.			
10.			
11. Promptly transfer used fluids to the proper container; do not leave full drip pans or other open containers around the shop.			
12. Do not pour vehicle fluids down floor drains, sinks, or outdoor storm drain inlets.			

VM3 – Vehicle/Equipment Cleaning

Objectives

- Contain
- Reduce/Minimize
- Educate

Targeted Constituents

- Gasoline/diesel
- Oil and grease
- Hydrocarbons
- Phosphates

Description

Wash water from vehicle and equipment cleaning activities performed outdoors or in areas where wash water flows onto the ground can contribute toxic hydrocarbons and other organic compounds, oils and greases, nutrients, phosphates, heavy metals, and suspended solids to stormwater runoff. Use of the procedures outlined below can prevent or reduce the discharge of pollutants to stormwater during vehicle and equipment cleaning.

Revised: 11/8/13

Inspection Checklist:

Review all Pollution Prevention Practices and place a "√" in the box (Yes or No) to indicate whether each practice is being implemented.

Name of Inspector: _____ Date of Inspection: _____

VM3 – Vehicle/Equipment Cleaning Pollution Prevention Practices	Practice Performed?		State reason if practice is not being performed
	Yes	No	
Indoor washing (Preferred Method)			
1. Wash vehicles and equipment indoors where drains are properly plumbed to the sanitary sewer system wherever possible if washing/cleaning must occur on-site.			
2. Ensure that wash water from indoor areas is contained indoors and is not allowed to contact outside surfaces.			
3. Mark the area clearly as a designated wash area.			
4. Design wash areas to properly collect and dispose of wash water when engine cleaning is conducted and when chemical additives, solvents, or degreasers are used. (e.g. sump pumps, drain lines, berm construction, grading of the area)			

VM3 – Vehicle/Equipment Cleaning Pollution Prevention Practices	Practice Performed?		State reason if practice is not being performed
	Yes	No	
5. Discharge equipment wash water to: a. the sanitary sewer, a holding tank, or process treatment system, or b. an enclosed recycling system. Wash waters collected from degreasing operations should be treated through an oil water separator prior to discharge to a sanitary sewer. **DO NOT DISCHARGE WASH WATER TO THE STORM SEWER SYSTEM.**			
6. Provide a trash container in wash area.			
If washing must be done outdoors:			
7. Use tarps, berms, curbing, or other methods to collect and contain wash water.			
8. Remove tarp and berms over and around the wash area when not in use to prevent contact with rain water.			
9. Discharge equipment wash water to: a. the sanitary sewer, a holding tank, or process treatment system, or b. an enclosed recycling system. Wash waters collected from degreasing operations should be treated through an oil water separator prior to			

VM3 – Vehicle/Equipment Cleaning Pollution Prevention Practices	Practice Performed?		State reason if practice is not being performed
	Yes	No	
discharge to a sanitary sewer. **DO NOT DISCHARGE WASH WATER TO THE STORM SEWER SYSTEM.**			
10. Do not conduct oil changes and other engine maintenance in designated washing area.			
11. Use hoses with nozzles that automatically turn off when left unattended.			

VM4 – Vehicle/Equipment Painting

Objectives

- Contain
- Educate
- Reduce/Minimize

Targeted Constituents

- Paint
- Primer
- Solvents
- Thinners
- Rags/absorbents used for spill clean-up

Description

Vehicle or equipment painting is potentially a significant source of stormwater pollution, due to the use of materials and wastes created that are harmful to humans and the environment. Painting, priming, thinning, and cleaning are activities that involve the use of chemicals that must be properly managed to avoid contamination of stormwater runoff.

Inspection Checklist:

Review all Pollution Prevention Practices and place a "√" in the box (Yes or No) to indicate whether each practice is being implemented.

Name of Inspector: _____ Date of Inspection: _____

VM4 – Vehicle/Equipment Painting Pollution Prevention Practices	Practice Performed?		State reason if practice is not being performed
	Yes	No	
1. Conduct painting, priming, and spraying, activities indoors.			
2. Spray paint in an Occupational Safety and Health Act (OSHA) approved hood.			
3. Keep paint and paint thinner away from traffic areas to avoid spills.			
4. Use effective spray equipment that delivers more paint to the target and less over-spray.			
5. Avoid sanding in windy weather and collect and dispose of waste properly.			
6. Perform wet sanding indoors and away from storm sewer inlets. Sweep solids when dry and dispose of in the trash.			
7. Recycle paint, paint thinner, and solvents.			

VM4 – Vehicle/Equipment Painting Pollution Prevention Practices	Practice Performed?		State reason if practice is not being performed
	Yes	No	
8. Do not pour paints, thinners, or solvents down floor drains, sinks, or outdoor storm drain inlets.			

WL1 – Waterline Maintenance and Cleaning

Objectives

- Contain
- Educate
- Reduce/Minimize

Targeted Constituents

- Sediment
- Debris
- Oil

Description

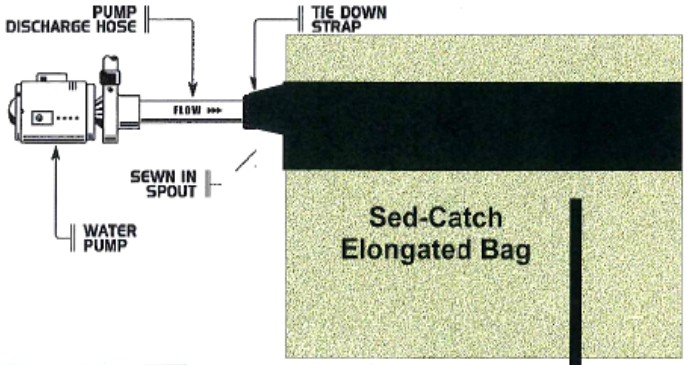
Waterline maintenance includes planned and unplanned activities that must be conducted to ensure safe drinking water is provided to the City's water customers. These practices include the flushing of waterline systems and dewatering during emergency repairs. Each of these practices has the potential to contribute pollutants to the storm drainage system. The objectives of this BMP are to reduce the amount of potable water that is discharged into the storm sewer system during flushing operations and to reduce the amount of sediment that is discharged into the storm drain system during dewatering operations.

Waterline Maintenance and Cleaning WL1

The pumping of un-filtered muddy, sediment-laden water into the storm sewers is a violation of the OEPA General Permit and City of Columbus Regulations.

Sediment Control

All ***Pumped*** muddy-water must ***first*** filter through a sediment control device attached to the pump discharge hose.



Vegetated or stone base

Sediment bags, socks and tubes.

The filtered water is then directed to a ***second*** layer of sediment control protection devices on the curb inlets or catch basins.

Approved, properly installed sediment control devices include, but are not limited to: Gutter Gators, Silt Socks, FryeFlow Systems, Sed-Catch and Dandy Products.

Revised: 11/8/13

Waterline Maintenance and Cleaning WL1

Inspection Checklist:

Review all Pollution Prevention Practices and place a "√" in the box (Yes or No) to indicate whether each practice is being implemented.

Name of Inspector: _____ Date of Inspection: _____

WL1 – Waterline Maintenance and Cleaning Pollution Prevention Practices	Practice Performed?		State reason if practice is not being performed
	Yes	No	
Planned Discharges (i.e. hydrant testing, waterline flushing, dewatering for scheduled maintenance)			
1. Give first consideration to the following water disposal/land application options: a. Dust control b. Construction compaction c. Street sweeping operations			
2. Inspect discharge flow path and clear/cleanup any debris or pollutants found (i.e. trash, leaves, sediment, oil spills, etc.).			
3. Attach primary sediment control device to the pump discharge hose to filter muddy water. Such measures may include but are not limited to sediment bags, socks and tubes.			

Waterline Maintenance and Cleaning WL1

WL1 – Waterline Maintenance and Cleaning Pollution Prevention Practices	Practice Performed?		State reason if practice is not being performed
	Yes	No	
4. Install secondary sediment control device to curb inlets or catch basins to remove additional sediment prior to discharge to stormwater inlets. Such measures may include but are not limited to Gutter Gators, Silt Socks, FryeFlow Systems, Sed-Catch and Dandy products.			
5. Monitor the effectiveness of sediment control devices during the discharge period and make any necessary repairs or modifications to correct problems.			
6. Remove and properly dispose of any trapped sediment once the repair is complete and disturbed areas are stabilized.			
Unplanned Discharges (i.e. water main breaks, sheared fire hydrants, equipment malfunction, etc.)			
7. Stop the discharge of water as quickly as possible.			
8. Inspect flow path of discharged water to: a. Identify erodible areas which may need to be repaired/protected during subsequent repairs or corrective actions b. Identify the potential for any pollutants to be washed into the storm sewer system			
9. Attach primary sediment control device to the pump discharge hose to filter muddy water. Such measures may			

WL1 – Waterline Maintenance and Cleaning Pollution Prevention Practices	Practice Performed?		State reason if practice is not being performed
	Yes	No	
include but are not limited to sediment bags, socks and tubes.			
10. Install secondary sediment control device to curb inlets or catch basins to remove additional sediment prior to discharge to stormwater inlets. Such measures may include but are not limited to Gutter Gators, Silt Socks, FryeFlow Systems, Sed-Catch and Dandy products.			
11. Monitor the effectiveness of sediment control devices during the discharge period and make any necessary repairs or modifications to correct problems.			
12. Remove and properly dispose of any trapped sediment once the repair is complete and disturbed areas are stabilized.			

Appendix I

Appendix I
Categories of Industrial Facilities
From 40 C.F.R. 122.26(b)(14)

Category	Description	SIC Code Definitions
i	Facilities subject to storm water effluent limitations guidelines, new source performance standards, or toxic pollutant effluent standards under 40 CFR subchapter N (except facilities with toxic pollutant effluent standards which are exempted under category (xi) in paragraph (b)(14) of this section)	
ii	Facilities classified as Standard Industrial Classifications 24 (except 2434), 26 (except 265 and 267), 28 (except 283), 29, 311, 32 (except 323), 33, 3441, 373	24 - Lumber and Wood Products, Except Furniture (except Wood Kitchen Cabinets) 26 - Paper and Allied Products (except Paperboard Containers And Boxes and Converted Paper And Paperboard Products) 28 - Chemicals and Allied Products (except Drugs) 29 - Petroleum Refining and Related Industries 311 - Leather Tanning And Finishing 32 - Stone, Clay, Glass, and Concrete Products (except Glass Products, Made Of Purchased Glass) 33 - Primary Metal Industries 3441 - Fabricated Structural Metal 373 - Ship And Boat Building And Repairing

Category	Description	SIC Code Definitions
iii	Facilities classified as Standard Industrial Classifications 10 through 14 (mineral industry) including active or inactive mining operations (except for areas of coal mining operations no longer meeting the definition of a reclamation area under 40 CFR 434.11(1) because the performance bond issued to the facility by the appropriate SMCRA authority has been released, or except for areas of non-coal mining operations which have been released from applicable State or Federal reclamation requirements after December 17, 1990) and oil and gas exploration, production, processing, or treatment operations, or transmission facilities that discharge storm water contaminated by contact with or that has come into contact with, any overburden, raw material, intermediate products, finished products, byproducts or waste products located on the site of such operations; (inactive mining operations are mining sites that are not being actively mined, but which have an identifiable owner/operator; inactive mining sites do not include sites where mining claims are being maintained prior to disturbances associated with the extraction, beneficiation, or processing of mined materials, nor sites where minimal activities are undertaken for the sole purpose of maintaining a mining claim)	10 - Metal Mining 12 - Coal Mining 13 - Oil and Gas Extraction 14 - Mining and Quarrying of Nonmetallic minerals, Except Fuels
iv	Hazardous waste treatment, storage, or disposal facilities, including those that are operating under interim status or a permit under subtitle C of RCRA	

Category	Description	SIC Code Definitions
v	Landfills, land application sites, and open dumps that receive or have received any industrial wastes (waste that is received from any of the facilities described under this subsection) including those that are subject to regulation under subtitle D of RCRA	
vi	Facilities involved in the recycling of materials, including metal scrapyards, battery reclaimers, salvage yards, and automobile junkyards, including but limited to those classified as Standard Industrial Classification 5015 and 5093	5015 - Motor Vehicle Parts, Used 5093 - Scrap and Waste Materials
vii	Steam electric power generating facilities, including coal handling sites	
viii	Transportation facilities classified as Standard Industrial Classifications 40, 41, 42 (except 4221–25), 43, 44, 45, and 5171 which have vehicle maintenance shops, equipment cleaning operations, or airport deicing operations. Only those portions of the facility that are either involved in vehicle maintenance (including vehicle rehabilitation, mechanical repairs, painting, fueling, and lubrication), equipment cleaning operations, airport deicing operations, or which are otherwise identified under paragraphs (b)(14) (i)–(vii) or (ix)–(xi) of this section are associated with industrial activity	40 - Railroad Transportation 41 - Local and Suburban Transit and Interurban Highway Passenger Transport 42 - Motor Freight Transportation and Warehousing (except Farm Product Warehousing and Storage, Refrigerated Warehousing and Storage, and General Warehousing and Storage) 43 - United States Postal Service 44 - Water Transportation 45 - Transportation By Air 5171 - Petroleum Bulk Stations and Terminals

Category	Description	SIC Code Definitions
ix	Treatment works treating domestic sewage or any other sewage sludge or wastewater treatment device or system, used in the storage treatment, recycling, and reclamation of municipal or domestic sewage, including land dedicated to the disposal of sewage sludge that are located within the confines of the facility, with a design flow of 1.0 mgd or more, or required to have an approved pretreatment program under 40 CFR part 403. Not included are farm lands, domestic gardens or lands used for sludge management where sludge is beneficially reused and which are not physically located in the confines of the facility, or areas that are in compliance with section 405 of the CWA	
x	Construction activity including clearing, grading and excavation, except operations that result in the disturbance of less than five acres of total land area. Construction activity also includes the disturbance of less than five acres of total land area that is a part of a larger common plan of development or sale if the larger common plan will ultimately disturb five acres or more	
xi	Facilities under Standard Industrial Classifications 20, 21, 22, 23, 2434, 25, 265, 267, 27, 283, 285, 30, 31 (except 311), 323, 34 (except 3441), 35, 36, 37 (except 373), 38, 39, and 4221–25	20 - Food and Kindred Products 21 - Tobacco Products 22 - Textile Mill Products 23 - Apparel And Other Finished Products Made From Fabrics and Similar Materials

		2434 - Wood Kitchen Cabinets 25 - Furniture and Fixtures 265 - Paperboard Containers and Boxes 267 - Converted Paper and Paperboard Products 27 - Printing, Publishing, and Allied Industries 283 - Drugs 285 - Paints, Varnishes, Lacquers, Enamels, and Allied 30 - Rubber and Miscellaneous Plastics Products 31 - Leather and Leather Products (except Leather Tanning and Finishing) 323 - Glass Products, Made Of Purchased Glass 34 - Fabricated Metal Products, Except Machinery and Transportation Equipment (except Fabricated Structural Metal) 35 - Industrial and Commercial Machinery and Computer Equipment 36 - Electronic and Other Electrical Equipment and Components, Except Computer Equipment 37 - Transportation Equipment (except Ship and Boat Building and Repairing) 38 - Measuring, Analyzing, and Controlling Instruments; Photographic, Medical and Optical

		Goods; Watches and Clocks 39 - Miscellaneous Manufacturing Industries 4221 - Farm Product Warehousing and Storage 4222 - Refrigerated Warehousing and Storage 4225 - General Warehousing and Storage

Appendix J

CITY OF COLUMBUS
STORM WATER INDUSTRIAL SITE INSPECTION FORM

Facility: _____ Contact: _____

Site Address: _____ Title: _____

_____ Telephone: _____

Date of Current Inspection: _____ Other Person(s) at Inspection:

Date of Previous Inspection: _____ _____

Time of Inspection: _____ _____

_____

Weather at Time of Inspection: Clear ___ Cloudy ___ Rain ___ Sleet ___ Fog ___
Snow ___ High Winds ___ Other (list): _____ Temperature _____

SECTION I: NPDES STATUS

Standard Industrial Classification(s) (SIC): _____

Does facility have Industrial Storm Water General Permit Coverage? Yes ___ No ___

NPDES Permit Expiration Date: _____

OEPA Facility Permit Number: _____

Has facility filed a Notice of Intent (NOI) form with OEPA? Yes ___ No ___

If facility claims no industrial activities are exposed to storm water, has a No Exposure Certification form been filed with OEPA? Yes ___ No ___ NA ___

Is facility serviced by a Combined Sewer? Yes ___ No ___

Does facility have any non-storm water discharges to the MS4? Yes ___ No ___

If Yes, List Sources and Volumes: _____

_____

Are these Discharges Permitted? Yes ___ No ___ NA ___

Storm Water Receiving Waterway: _____

Monitoring Requirements (Check all that apply):
Quarterly Visual ___ Benchmark Monitoring ___ Effluent Limits ___

Have records for monitoring requirements listed above been properly maintained and made readily available for review? Yes ___ No ___

If No, describe: _____

_____

SECTION II: STORM WATER POLLUTION PREVENTION PLAN (SWP3) STATUS

Does facility have a SWP3 on file with City? Yes ___ No ___ NA ___

Plan Date: _____ Is Plan Current? Yes ___ No ___

If No, revised SWP3 must be submitted to the City by: _____

Does Plan contain a drainage site map? Yes ___ No ___

If No, completed site map due: _____

Have major Best Management Practices (BMPs) identified by Plan been installed and maintained? Yes ___ No ___

If No, describe required actions and completion date: _____

_____

_____

_____

List any spills or leaks affecting storm water discharges in the last three years: _____

_____

_____

_____

SECTION III: SITE INSPECTION

Visual confirmation of potential pollutant sources conducted? Yes ___ No ___ NA ___

Is Containment Adequate? Yes___ No ___

If No, describe required actions and completion date: _____

_____

_____

Description of discharges occurring at the time of inspection: _____

_____

List any needed Control Measures or existing Control Measures needing repair: _____

_____

_____

List any non-compliance issues observed: _____

_____

Recommendations/requirements from last inspection completed? Yes __ No __ NA __

If No, describe required actions and completion date: _____

_____

NOTES:

NOTES:

_____

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SECTION IV: SIGNATURES

I HAVE READ THE INFORMATION CONTAINED HEREIN, AND AGREE THAT IT IS AN ACCURATE DESCRIPTION OF THE SITE INSPECTION CONDUCTED ON THIS DATE.

_____ _____

Facility Representative Date

_____ _____

Inspector Date

_____ _____

Inspector Date

COMMON STORMWATER POLLUTION AREAS TO BE CHECKED DURING INSPECTION

_____ Improper floor drain connections

_____ Material and/or refuse storage areas that are exposed to precipitation and/or stormwater run-on

_____ Material and/or refuse handling (loading/unloading) areas that are exposed to precipitation and/or stormwater run-on

_____ Leaking outdoor storage containers

_____ Leaking outdoor equipment

_____ Re-fueling areas

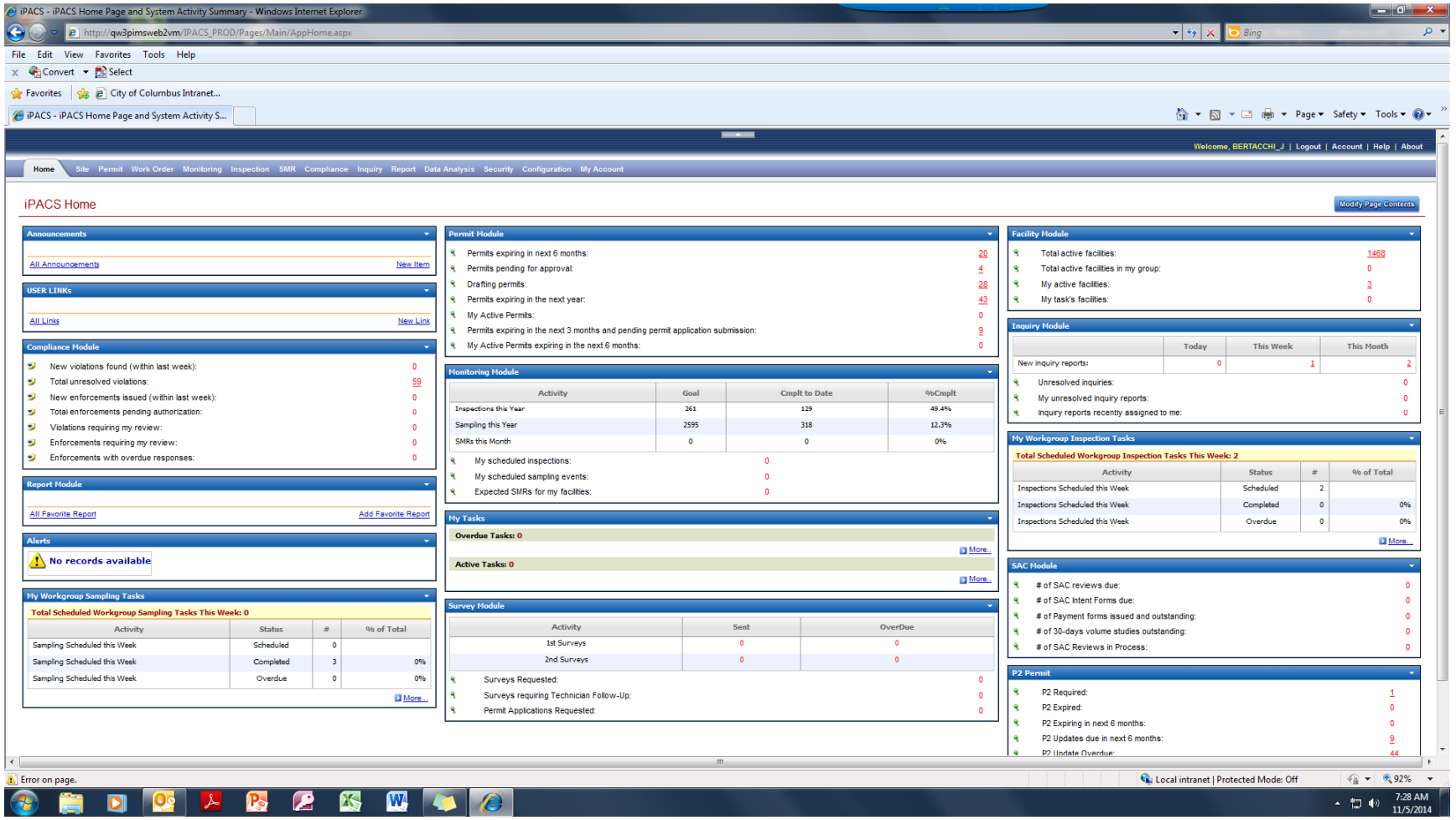
_____ Rooftops/roof vents

_____ Outdoor equipment washing areas

_____ Outdoor parking lot, building washing areas

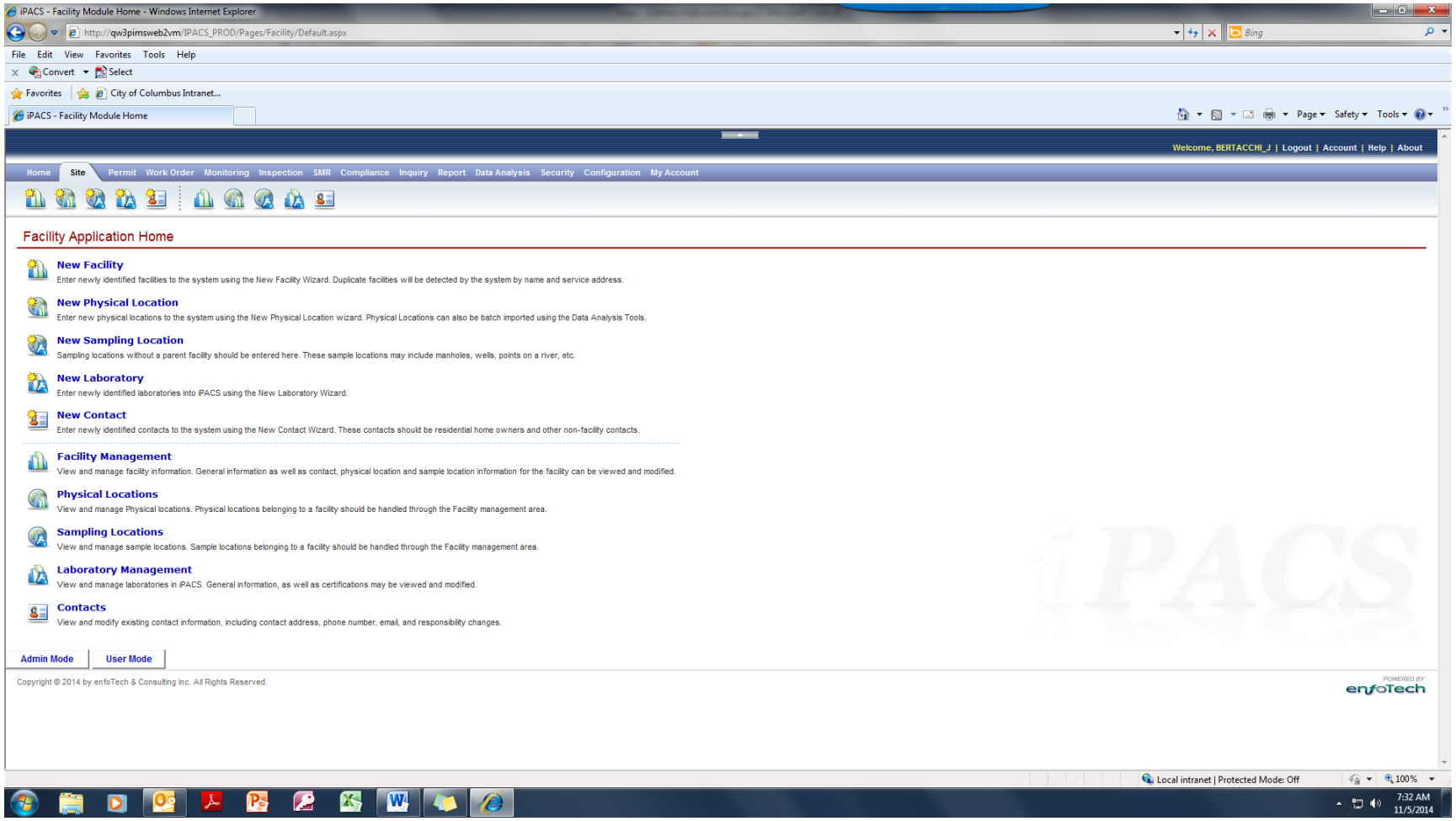
Appendix K

Appendix K – Sample of internet POTW Administration and Compliance System (iPACS) Database



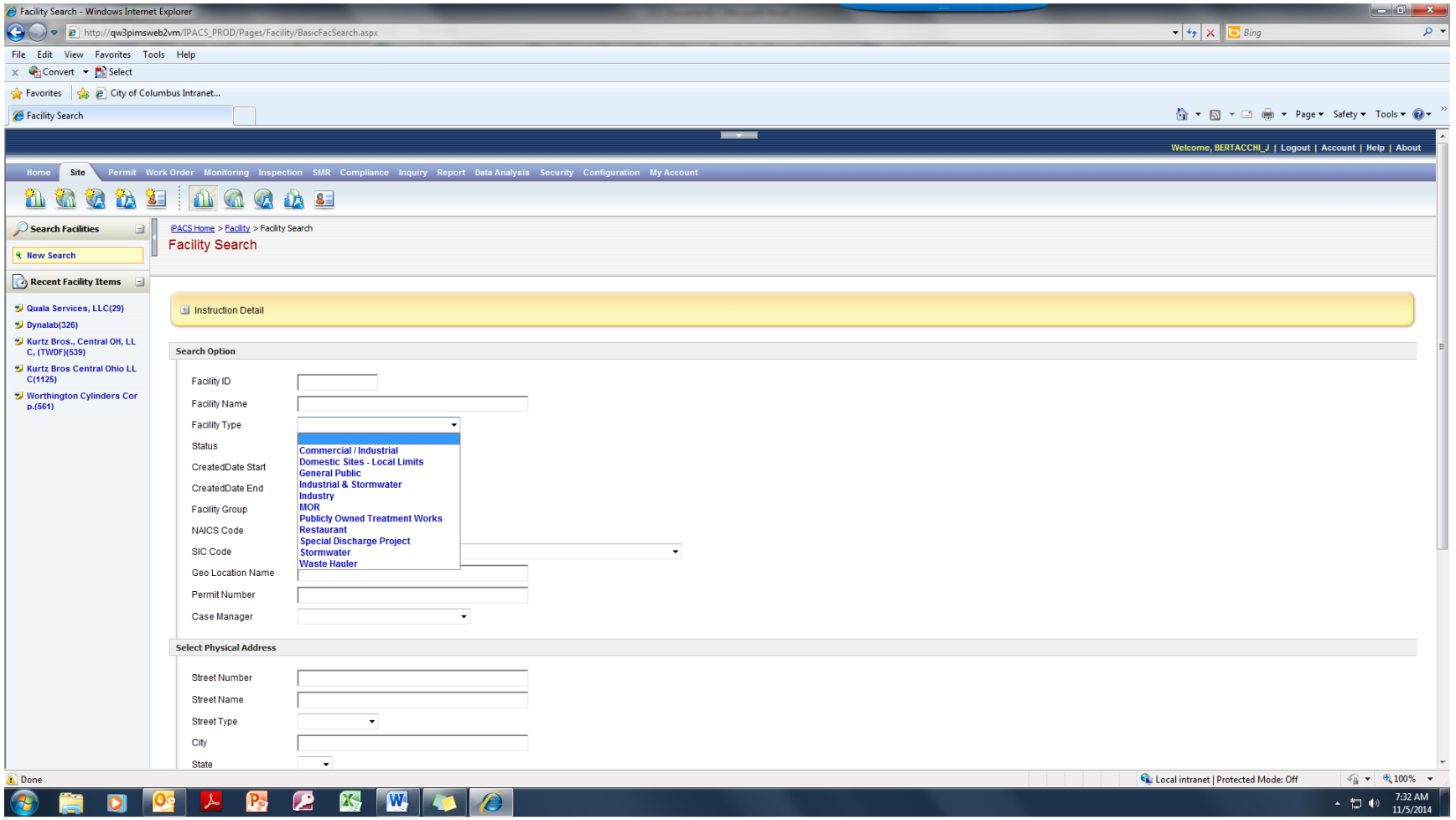
iPACS Home Page

Appendix K – Sample of internet POTW Administration and Compliance System (iPACS) Database



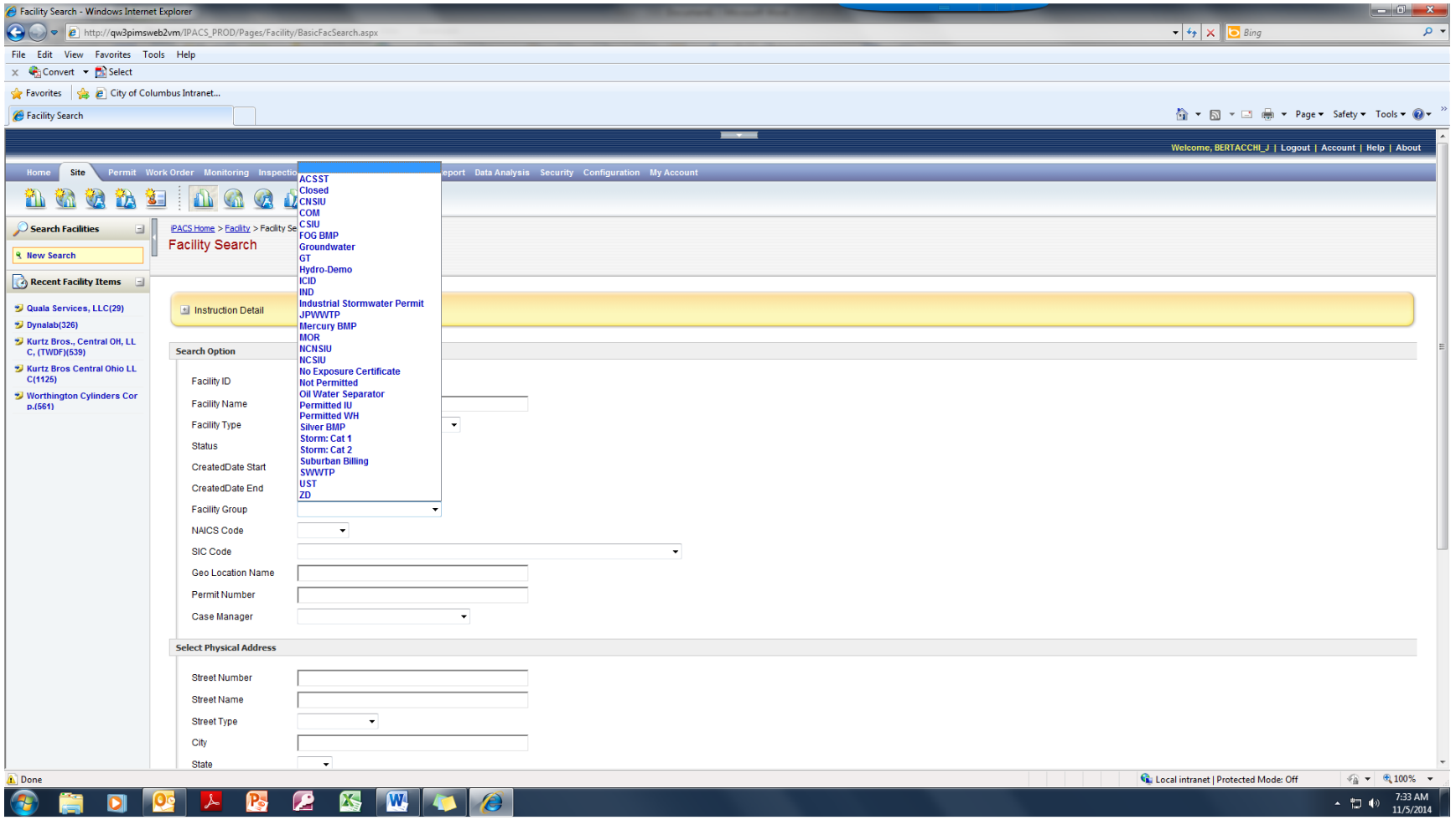
Facility Management Screen

Appendix K – Sample of internet POTW Administration and Compliance System (iPACS) Database



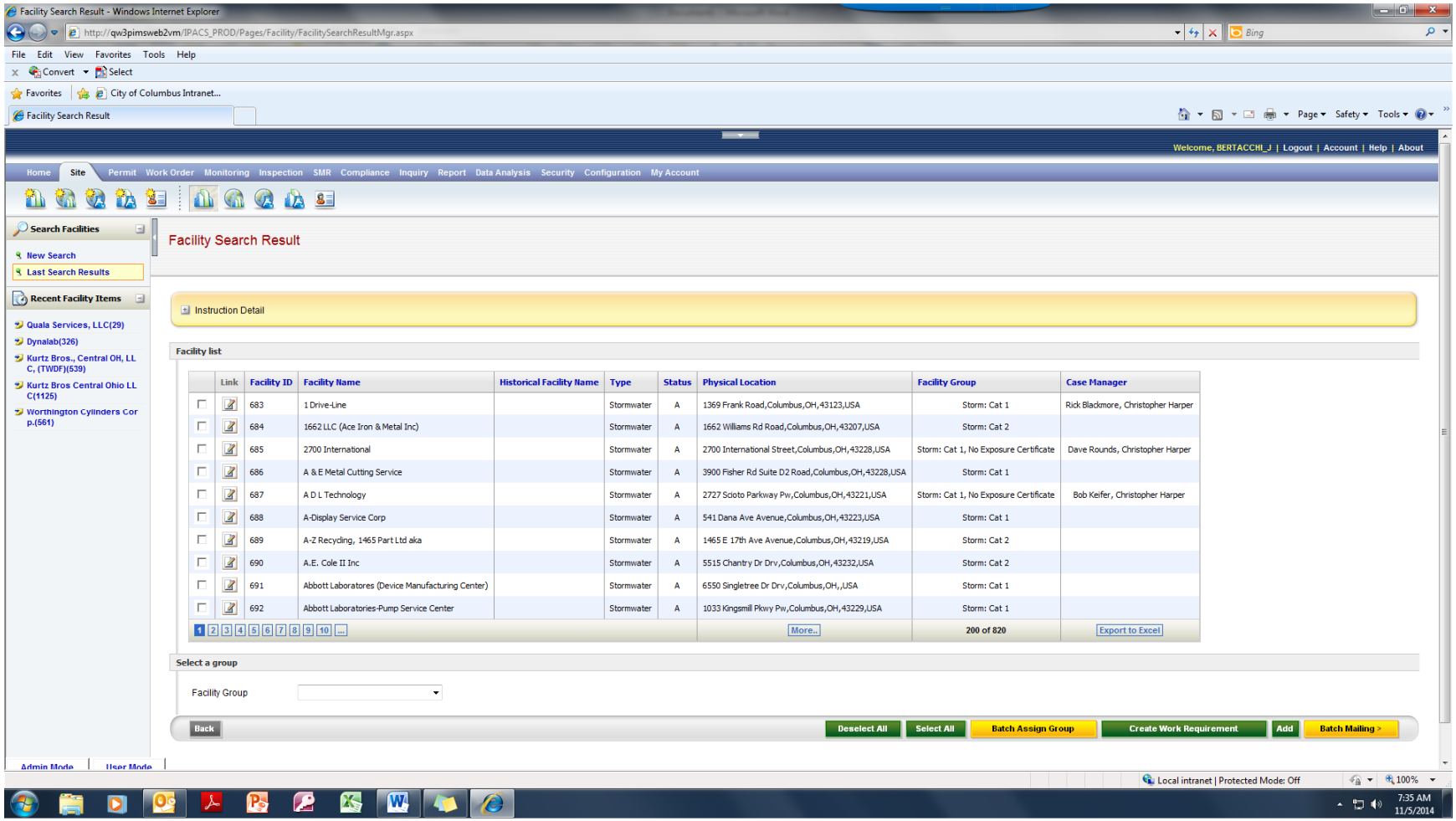
Facility Management Search Screen showing pull down menu used to filter for Facility Types

Appendix K – Sample of internet POTW Administration and Compliance System (iPACS) Database



Facility Management Search Screen showing pull down menu used to filter for Facility Groups

Appendix K – Sample of internet POTW Administration and Compliance System (iPACS) Database



Facility Management Search Screen showing 820 Facilities classified as Stormwater